

# Hospital Building Safety Board

Full Board Meeting  
August 13, 2026



**\*\*\* SPECIAL NOTICE \*\*\***

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

Board members must attend this meeting in person.  
HCAI staff and members of the public may fully participate from  
their own locations.

This page left intentionally blank.

## TABLE OF CONTENTS

|                                                                                                                                                                                               |          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <b>Hospital Building Safety Board Meeting Agenda: August 13, 2026.....</b>                                                                                                                    | <b>1</b> |
| <br><b>Item 5: Full Board draft Meeting Report/Minutes</b>                                                                                                                                    |          |
| April 9, 2026 .....                                                                                                                                                                           | 9        |
| <br><b>Item 6: Instrumentation Committee draft Meeting Report/Minutes</b>                                                                                                                     |          |
| March 24, 2026.....                                                                                                                                                                           | 49       |
| <br><b>Item 7: Education and Outreach Committee draft Meeting Report/Minutes</b>                                                                                                              |          |
| April 29, 2026 .....                                                                                                                                                                          | 61       |
| <br><b>Item 8: Ad Hoc How-To-Guide Development for Preapproved Fabricated Components and Systems Subcommittee of the Education and Outreach Committee draft Meeting Report/Minutes</b>        |          |
| March 19, 2026.....                                                                                                                                                                           | 77       |
| May 6, 2026.....                                                                                                                                                                              | 93       |
| June 17, 2026.....                                                                                                                                                                            | 105      |
| <br><b>Item 9: Ad Hoc Educational Opportunities to Advance Structural Health Monitoring by Hospitals Subcommittee of the Education and Outreach Committee draft Meeting Report/Minutes</b>    |          |
| March 26, 2026.....                                                                                                                                                                           | 113      |
| <br><b>Item 10: Ad Hoc “HCAI Design Guide for Planning and Preparing for Disasters” Webinar Development Subcommittee of the Education and Outreach Committee draft Meeting Report/Minutes</b> |          |
| May 13, 2026.....                                                                                                                                                                             | 129      |
| <br><b>Item 11: Technology and Research Committee draft Meeting Report/Minutes</b>                                                                                                            |          |
| June 18, 2026.....                                                                                                                                                                            | 139      |
| <br><b>Item 12: Codes and Processes Committee draft Meeting Report/Minutes</b>                                                                                                                |          |
| July 9, 2026 .....                                                                                                                                                                            | 151      |
| <br><b>2026 Board Rosters:</b>                                                                                                                                                                |          |
| Committee List.....                                                                                                                                                                           | 163      |
| Board Membership .....                                                                                                                                                                        | 169      |
| Consulting Committee Members .....                                                                                                                                                            | 171      |

This page left intentionally blank.



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



## Hospital Building Safety Board Full Board Meeting AGENDA

August 13, 2026  
10:00 a.m. – 4:00 p.m.

The Board may not discuss or act on any matter raised during the public comment section that is not included on this agenda, except to place the matter on a future meeting agenda. (Government Code §§ 11125, 11125.7, subd. (a).)

### Location:

[2020 West El Camino Avenue, Ste. 900, Sacramento, CA 95833](#)

[Teams Meeting Access](#); Meeting ID: 277 409 822 714 50; Passcode: im7Ep9Af

Call in: (916) 535-0978; Phone Conference ID: 530 284 38#

- Item #1      Call to Order and Welcome  
*Facilitator: James O. Malley, SE, Senior Principal, Degenkolb Engineers;  
Board Chair (or designee)*
- Item #2      Roll Call and Meeting Advisories/Expectations
- Determination of Quorum
  - Conduct of Meeting
- Facilitator: Veronica M. Yuke, HCAI; HBSB Executive Director  
(or designee)*
- Item #3      Department of Health Care Access and Information (HCAI) Update
- Recognition of outgoing HBSB Member, John Griffiths, Electrical Engineer Representative
  - Acknowledgment of second-term appointment of Cody Bartley, General Contractor Member Representative
  - HCAI Update
  - Discussion and public input
- Facilitator: Elizabeth Landsberg, Director, HCAI (or designee)*

- Item #4      Nominations for HBSB Chair and Vice-Chair Kick Off
- 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
- Facilitators: Michael Foulkes, Director, State and Local Government Affairs, Apple Inc.; and Scott Karpinen, ME, LEED AP, Chief Design Engineer, Frank M. Booth, Inc.; Nominating Committee (or designees)*
- Item #5      Overview and approval of the April 9, 2026, Full Board draft Meeting Report/Minutes
- Discussion and public input
- Facilitator: James O. Malley, Board Chair (or designee)*
- Item #6      Instrumentation Committee
- Overview and approval of the March 24, 2026, meeting
  - Discussion and public input
- Facilitator: Martin Hudson, PhD, PE, GE, Principal Geotechnical Engineer, Hudson Geotechnics, Inc.; Committee Chair (or designee)*
- Item #7      Education and Outreach Committee
- Overview and approval of the April 29, 2026, draft Meeting Report/Minutes
  - Overview of the July 22, 2026, meeting
  - Discussion and public input
- Facilitator: Teresa Endres, AIA, ACHA, EDAC, AAH, Principal and Senior Medical Planner, HOK; Committee Chair (or designee)*
- Item #8      Ad Hoc How-To-Guide Development for Preapproved Fabricated Components and Systems Subcommittee of the Education and Outreach Committee
- Overview and approval of the following draft Meeting Report/Minutes
    - March 19, 2026
    - May 6, 2026
    - June 17, 2026
  - Discussion and public input
- Facilitator: Cody Bartley, Subcommittee Chair (or designee)*

- Item #9      Ad Hoc Educational Opportunities to Advance Structural Health Monitoring by Hospitals Subcommittee of the Education and Outreach Committee
- Overview and approval of the March 26, 2026, draft Meeting Report/Minutes
  - Overview of the July 23, 2026, meeting
  - Discussion and public input
- Facilitator: Martin Hudson, Subcommittee Chair (or designee)*
- Item #10      Ad Hoc “HCAI Design Guide for Planning and Preparing for Disasters” Webinar Development Subcommittee of the Education and Outreach Committee
- Overview and approval of the May 13, 2026, draft Meeting Report/Minutes
  - Overview of the “Wildfire and Wildland-Urban Interface Readiness for Healthcare Facilities” webinar, held on May 14, 2026
    - Presenter: Gary Dunger, Executive Director, Design and Construction, Cedars-Sinai Health System
  - Overview of the “Designing Hospitals for Wildfire Smoke: HVAC Strategies for Resilience and Readiness” webinar, held on June 10, 2026
    - Presenter: Mikhail Fuks, PE, HFDP, DBIA, Director of Engineering, Pan-Pacific Mechanical
  - Overview of the “Power Resilience, Regulatory Compliance, and the Future of Healthcare Infrastructure” webinar, held on July 7, 2026
    - Presenter: Jamie Schnick, PE, Senior Electrical Engineer, HCAI
  - Discussion and public input
- Facilitator: Teresa Endres, Subcommittee Chair (or designee)*
- Item #11      Technology and Research Committee
- Overview and approval of the June 18, 2026, draft Meeting Report/Minutes
  - Discussion and public input
- Facilitator: Gary Dunger, Committee Chair (or designee)*
- Item #12      Codes and Process Committee
- Overview and approval of the July 9, 2026, draft Meeting Report/Minutes
  - Discussion and public input
- Facilitator: Teresa Endres, Committee Chair (or designee)*

- Item #13      Structural and Nonstructural Regulations Committee
- Overview of the July 29, 2026, meeting
  - Discussion and public input
- Facilitator: James O. Malley, Committee Chair (or designee)*
- Item #14      HBSB Chair and Vice-Chair Election
- Board Members vote to elect a Chair and Vice-Chair to officially take office on January 1, 2027
  - Discussion and Public input
- Facilitators: Michael Foulkes and Scott Karpinen (or designees)*
- Item #15      Office of Statewide Hospital Planning and Development (OSHPD) Update
- Discussion and public input
- Facilitator: Chris Tokas, SE, F.SEAOC, CBO, Deputy Director, HCAI (or designee)*
- Item #16      Discussion on the use of third-party Inspector of Record broker firms on hospital construction projects as it relates to the California Administrative Code, Title 24, Part 1
- Discussion and public input
- Facilitator: James O. Malley (or designee)*
- Item #17      Comments from the Public/Board Members on issues not on this agenda  
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.
- Facilitator: James O. Malley (or designee)*
- Item #18      Adjournment

Appointed Members: James O. Malley, SE, Senior Principal, Degenkolb Engineers;  
Board Chair  
Cody Bartley, DPR Construction; Vice-Chair  
Jennifer G. Cox, MHA, BSN, RN, PHN, CIC, System Director,  
Epidemiology and Infection Prevention, UC Irvine Health  
Michael L. Davis, CHI, Senior Consultant, DavisHBC, Inc.  
Gary Dunger, Executive Director, Design and Construction,  
Cedars-Sinai Health System  
Teresa Endres, AIA, ACHA, EDAC, AAH  
Mikhail Fuks, P.E., HFDP, DBIA

John Griffiths, PE, Electrical Engineer, CONTECH-CA  
Martin B. Hudson, PhD, PE, GE, Principal Geotechnical  
Engineer, Hudson Geotechnics, Inc.  
Courtney B. Johnson, PG, CEG, Principal Geologist, Slate  
Geotechnical Consultants  
Kelly Martinez, RN, MBA, FACHE, EDAC, Co-founder, Hallsta, Inc.  
Farzad Naeim, PhD, SE, Esq, NAE, President, Farzad Naeim, Inc.  
Carl Newth, PE, CBO, LEED BD+C, Building Official and  
Director of Engineering Services, UC Los Angeles  
Noella Tabladillo, Director of Government and Community  
Relations, Kaiser Permanente National Facilities Services  
Belinda Young, AIA, LEED BD+C, Assoc. DBIA, Regional  
Leader of Healthcare, HOK

Director-Appointed

Ex-Officio Members: David Bliss, MD, Faraday Microgrids  
Micheal Foulkes, Former Legislative Director for Alfred E. Alquist  
Scott Karpinen, ME, LEED AP, Chief Design Engineer, Frank M.  
Booth, Inc.

Ex-Officio Members: Elizabeth Landsberg, HCAI Director  
Daniel Berlant, State Fire Marshal  
Vickie Sakamoto (Delegate)  
Jeremy Lancaster, State Geologist  
Jennifer Thornburg (Delegate)  
Stoyan Bumbalov, Building Standards Commission,  
Executive Director  
Irina Brauzman (Delegate)  
Kevin Day (Delegate)  
Erica Pan, MD, MPH, FIDSA, FAAP, Department of Public  
Health, Director  
Nathaniel Gilmore (Delegate)  
Chris Tokas, SE, F.SEAOC, CBO, OSHPD Deputy Director

HBSB

Executive Director: Veronica M. Yuke

The Hospital Building Safety Board agenda and other notices  
about meetings are posted online and can be found by searching for Hospital  
Building Safety Board and meeting month at <https://hcai.ca.gov/public-meetings>.

For further information about this meeting, please contact Evett Torres at  
(916) 440-8453, [HBSBSupportStaff@hcai.ca.gov](mailto:HBSBSupportStaff@hcai.ca.gov), or send a letter to The  
Department of Health Care Access and Information, 2020 West El Camino Avenue,  
Sacramento, CA 95833.

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. Items not listed on the agenda will not be considered. The Board may take a 30- to 90-minute break during the meeting. Members of the public are NOT required to identify themselves or provide other information to attend or participate in this meeting. If Microsoft Teams (or another platform) 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](mailto:anonymous@anonymous.com)).

This meeting is accessible to persons with a disability. A person who needs a disability-related accommodation or modification in order to participate in the meeting may make a request by contacting Evett Torres or Rajveer Dhaliwal at [HBSBSupportStaff@hcai.ca.gov](mailto:HBSBSupportStaff@hcai.ca.gov) or sending a written request to HBSB Staff at 2020 West El Camino Avenue, Sacramento, CA 95833. Providing your request at least seven (7) business days before the meeting will help ensure availability of the requested accommodation.

If you need help understanding or translating into another language, or if you need sign language services, please contact Evett Torres or Rajveer Dhaliwal at [HBSBSupportStaff@hcai.ca.gov](mailto:HBSBSupportStaff@hcai.ca.gov). Let us know at least seven (7) days before the meeting so we can set up the services you need.

### **Spanish/ Español**

Si necesita ayuda para entender esta agenda de la reunión, necesita que se traduzca en otro idioma, o necesita servicios en lenguaje de señas Evett Torres [HBSBSupportStaff@hcai.ca.gov](mailto:HBSBSupportStaff@hcai.ca.gov). Avísenos al menos siete días antes de la reunión a fin de que podamos programar los servicios que necesita.

### **Korean/ 한국어**

이 회의 안건을 이해하는 데 도움이 필요하거나, 다른 언어로 번역이 필요하거나, 수화 서비스가 필요한 경우: Evett Torres [HBSBSupportStaff@hcai.ca.gov](mailto:HBSBSupportStaff@hcai.ca.gov). 필요한 서비스를 제공할 수 있도록 회의 개최 7일 전까지 알려주십시오.

### **Chinese Simplified/簡體中文**

如果您在理解本会议议程方面需要帮助，需要将本会议议程翻译成其他语言，或需要手语服务 Evett Torres [HBSBSupportStaff@hcai.ca.gov](mailto:HBSBSupportStaff@hcai.ca.gov). 请至少在会议前七天通知我们，以便我们安排您所需的服务。

### **Tagalog/Tagalog**

Kung kailangan mo ng tulong upang maunawaan ang adyenda ng pagpupulong na

ito, kailangan itong isalin sa ibang wika, o kailangan ng mga serbisyo para sa sign language Evett Torres [HBSBSupportStaff@hcai.ca.gov](mailto:HBSBSupportStaff@hcai.ca.gov). Ipaalam sa amin nang hindi bababa sa pitong araw bago ang pagpupulong upang mai-set up namin ang kailangan mong mga serbisyo.

**Vietnamese/Tiếng Việt**

Nếu quý vị cần trợ giúp để hiểu chương trình nghị sự của cuộc họp này, như cần dịch sang ngôn ngữ khác hoặc cần dịch vụ ngôn ngữ ký hiệu Evett Torres [HBSBSupportStaff@hcai.ca.gov](mailto:HBSBSupportStaff@hcai.ca.gov). Vui lòng cho chúng tôi biết ít nhất bảy ngày trước cuộc họp để chúng tôi có thể bố trí các dịch vụ mà quý vị cần

**Chinese 繁體中文**

如果您在理解本會議議程方面需要幫助，需要將本會議議程翻譯成其他語言，或需要手語服務 Evett Torres [HBSBSupportStaff@hcai.ca.gov](mailto:HBSBSupportStaff@hcai.ca.gov). 至少在會議前七天通知我們，以便我們安排您所需的服務。

**Sacramento Office:**

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

This page left intentionally blank.

# Full Board

---

Draft Meeting Report/Minutes

April 9, 2026

A solid blue horizontal bar spanning the width of the page at the bottom.

This page left intentionally blank.



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



## **Hospital Building Safety Board Full Board Meeting**

**April 9, 2026  
10:00 a.m. – 4:00 p.m.**

### **Meeting Location:**

355 South Grand Avenue, Conference Room 2000, Los Angeles, CA 90071

#### **Committee Members Present**

Jim Malley, Chair  
Cody Bartley, Vice-Chair  
David Bliss  
Michael Davis  
Gary Dunger  
Teresa Endres  
Martin Hudson  
Kelly Martinez  
Farzad Naeim  
Carl Newth  
Belinda Young

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

Michael Foulkes  
Scott Karpenin

#### **Ex-Officio Members Present**

Lemeneh Tefera, Chief Medical Officer,  
HCAI  
Chris Tokas, OSHPD Deputy Director  
Kevin Day, Building Standards Commission  
(Delegate)  
Nathaniel Gilmore, Department of Public  
Health (Delegate)  
Jennifer Thornburg, State Geologist  
(Delegate)

#### **HCAI Staff Present**

Arash Altoontash  
Richard Tannahill  
Roy Lobo  
Mia Marvelli

#### **HBSB Staff Present**

Veronica M. Yuke, Executive Director  
Marcus Palmer  
Evelt Torres

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

2 **Facilitator:** Jim Malley, SE, Senior Principal, Degenkolb Engineers; Board Chair (or  
3 designee)

4 Jim Malley called the meeting of the HBSB Full Board meeting to order on April 9th,  
5 2026, at 10:00 a.m. He thanked attendees for coming and expressed appreciation for  
6 everyone's input throughout the day.

7  
8 **2. Call and Meeting Advisories/Expectations**

9 **Facilitator:** Veronica M. Yuke, HCAI; HBSB Executive Director (or designee)

10 Veronica Yuke conducted roll call and stated that the board barely had a quorum and  
11 asked attendees not to leave early, noting there were many action items.

12  
13 **3. Department of Health Care Access and Information (HCAI) Update**

14 **Facilitator:** Lemeneh Tefera, MD MSc, Chief Medical Officer and Deputy Director,  
15 HCAI (or designee)

16 **Discussion and Input**

17 Lemeneh Tefera greeted attendees, identified himself as Chief Medical Officer and  
18 Deputy Director for HCAI, and proceeded with the swearing-in. Michael Foulkes and  
19 Scott Karpinen were duly sworn in as Director-Appointed Ex-Officio members of the  
20 Board.

- 21 • Jim Malley welcomed both individuals back to HBSB and thanked them again for  
22 their service to the board, the members, and the state of California.

23 Lemeneh Tefera stated the Department has a broad list of activities and indicated he  
24 would speak to the program work that has been receiving a lot of attention recently, the  
25 Rural Health Transformation Program.

26 He explained that the Rural Health Transformation Program was authorized by last  
27 year's HR1 bill, which provided \$50 billion over five years to states that apply to support  
28 rural healthcare across the state. California was awarded \$233.6 million for the first year  
29 of the program, and the Department is currently operationalizing the procedures to  
30 administer grants throughout the State.

31 During the application process, the Department submitted a detailed description of three  
32 initiatives related to improving rural healthcare across the state: the transformative care  
33 model, a workforce initiative, and technology and tools. The Department is looking

forward to releasing requests for applications this spring for a component of the transformative care model called Accelerator Partnerships. Once the RFA is released, the Department looks forward to receiving applications from entities providing care in rural sites as defined by CMS in the grant, and this will be one of the Department's active engagements for the year.

He concluded by stating the Department looks forward to successfully implementing the program and providing support throughout California, not just this year, but throughout the five years of the program.

#### **Board and Public Comments**

- None.

#### **Informational and Action Items**

- Lemeneh Tefera officiated the swearing in of Michael Foulkes and Scott Karpinen as members of HBSB.
- He reported that California was awarded \$233.6 million for the first year of the federal Rural Health Transformation Program, which was authorized by last year's HR1 bill providing \$50 billion over five years.
- He identified three initiatives submitted in the Department's application: the transformative care model, a workforce initiative, and technology and tools.
- He announced that requests for applications for the Accelerator Partnerships component of the transformative care model are anticipated to be released this spring, with applications to be accepted from entities providing care in rural sites as defined by CMS.

#### **4. Overview and approval of the December 10 – 11, 2025, Full Board draft Meeting Report/Minutes**

**Facilitator:** Jim Malley (or designee)

#### **Discussion and Input**

Jim Malley presented an overview of the December 10th and 11th, 2025 meeting reports, which were included in the meeting binder.

- He stated there was a nomination and election held to fill an unexpired Vice Chair vacancy. He nominated Cody Bartley, who accepted, and the motion passed unanimously for him to fill out the term for Vice Chair.
- Elizabeth Landsberg provided an update and swore in Belinda Young as a new board member. Farzad Naeim was acknowledged for completing his first term

1 and being reappointed for a second term. Retiring members Michael O'Connor  
2 and Bert Hurlbut each had over 20 years of service to the Board and made  
3 amazing contributions. The board thanked them for their participation.

- 4 • Program updates included that the Office of Patient Advocate and Data  
5 Exchange framework had been transferred to HCAI as of last August. CHA filed  
6 a lawsuit against HCAI about spending growth target methodologies and  
7 identification of high-cost hospitals. There was discussion about providing insulin  
8 and Naloxone at reduced costs as part of HCAI's activities. Director Landsberg  
9 discussed the rural health transformation program and applying for a \$50 billion  
10 investment fund under HR1, with extensive engagement with stakeholders  
11 through surveys and outreach in rural areas, hospitals, and clinics. The initiatives  
12 included transformative care, workforce expansion, technology and tools to help  
13 support and modernize systems data exchange and compliance, and enable  
14 group purchasing.
- 15 • He moved to the approval of the June 3 – 4, 2025, meeting report, Highlights  
16 included the swearing in of Mikhail Fuks, Kelly Martinez, and Noella Tabladillo,  
17 the update from HCAI on the budget deficit, AB 869 and clinical standards,  
18 behavioral health, and cost growth targets. Committee reports came from various  
19 committees including Ad Hoc Board Procedures, Instrumentation, Energy  
20 Conservation and Management, Structural and Nonstructural Regulations, Codes  
21 and Processes, and Education and Outreach. The OSHPD update covered the  
22 Building Standards Unit (BSU) update and a Kaiser Permanente microgrid  
23 presentation. A total of 11 motions were approved, and three new ad hoc  
24 subcommittees were created at that meeting.
- 25 • Item six was the Collaborative Inspection Approach to Hospital Construction  
26 Webinar Development Subcommittee, with Michael Davis as subcommittee chair.  
27 The subcommittee held a series of meetings earlier in 2025 and changed the title  
28 to Collaborative Inspection Approach to Hospital Construction to emphasize the  
29 shared accountability of all parties. Assigned presenters included Gary Dunger  
30 on the ownership side, Cody Bartley on contractor, Michael Davis on IOR,  
31 Monica Colosi for OSHPD's participation, and Belinda Young on the design side.  
32 Inspection data showed that non-collaborative teams' failure rates were much  
33 higher than those of collaborative teams. Good discussion from the board  
34 occurred on potential accountability and how it works for small remodel projects  
35 compared to larger and emergency projects, and ways to organize and publicize  
36 the webinar. The webinar was January 14th, was very successful, and would  
37 likely be discussed again.
- 38 • The next item in the December meeting was Technology and Research  
39 Committee, which Gary Dunger led the discussion on from the August 12, 2025,  
40 meeting. Three guest presentations occurred: Cathy Junda from Stantec

presented on emergency healthcare technologies, digital command centers, ambient intelligence, smart patient rooms, hybrid nursing models, and robotics. Joe LaBrie and Chris Davis from OSHPD presented the eTIO update on the new interface to streamline inspection procedures online, role-based access for design professionals, and real-time alerts. Moe Goudarzi of ARUP presented on smart LED lighting for energy conservation, patient wellness, operational efficiency, and programmable lighting systems integrating with HVAC, nurse call, and building systems, including benefits related to adjusting lighting and AC when rooms are unoccupied and staff optimization. Public comment indicated that added staff responsiveness and quick return on investment for reduced energy and maintenance needs are also benefits.

- Item eight was the HCAI Design Guide for Planning and Preparing for Disasters, another webinar development subcommittee chaired by Teresa Endres. The subcommittee held two meetings in late 2025 to review the design guide published in 2024 and added new topics on power independence of Island Hospital concept, air quality, and hazard vulnerability assessments. The subcommittee was formed for power independence, WUI Title 24, HVAC, infection control, and hazard vulnerability assessment, and outlines were set out for the webinar by the end of last year.
- Jim Malley moved to the Codes and Processes Committee Report, with Teresa Endres as Chair. He explained that the committee met on September 10, 2025, during which Chris Davis provided another update on the Electronic Testing and Inspection Online (ETIO) system. Chris Davis shared that the system was in beta testing and expected to enter pilot launch later in the year, ideally in the summer. Mia Marvelli presented proposed amendments to the 2025 California Administrative Code (Title 24, Part 1) submitted on December 1; if approved, they would become effective July 1, 2027. She also reviewed new legislative restrictions limiting intervening code cycle amendments to clarifications, conforming edits, or coordination items. Additional topics included energy compliance updates; functional program requirements; deferred submittals; amendments to the California Building Code (Part 2) related to primary care, specialty care, and alternate birthing clinics; behavioral health and crisis stabilization; fire and life safety; and amendments to the California Electrical Code (Part 3). Six major amendment categories were identified, including essential systems, fire pumps, switching equipment, sensor fixtures, and emergency power. Amendments to the California Mechanical Code (Part 4) included ventilation, air balancing, and alignment with ASHRAE 170. Amendments to the California Plumbing Code (Part 5) addressed fixture sizing and layouts, occupancy-based calculations, emergency drainage, conservation measures, and medical gas and vacuum system standards.

- 1 • Item 10 was the Structural and Nonstructural Regulations Committee report,  
2 which he gave. Seven topics from the October 22, 2025, meeting included the  
3 intervening code cycle restrictions of AB 130. For Title 24, Part 2, Volume 2  
4 structural amendments, Roy Lobo presented on construction document  
5 requirements, foundation design, load combinations, seismic risk coefficients,  
6 and drift limit inconsistencies. The committee moved to the existing buildings part  
7 of Title 24, part 10, and clarified amendments related to seismic retrofits to SPC  
8 4D. Gary Dunger presented work the Codes and Processes Committee had been  
9 doing on standard wood frame details. Chris Davis gave OPD updates resulting  
10 from California or ASCE 7 changes related to partition walls, with significant  
11 increases that would potentially result in more expensive construction for both  
12 steel frame and anchorage to the structure. Comments noted this would create  
13 problems with renovations in existing buildings. Discussion occurred about  
14 exceptions Title 24, Part 2 structural takes to the AISC provisions regarding  
15 which systems are allowed, noting that three of the systems have had significant  
16 development since they were set aside. The committee asked OSHPD to  
17 reconsider if those exceptions are still necessary, and OSHPD said they would  
18 consider.
- 19 • He moved to the Instrumentation Committee, chaired by Farzad Naeim. The  
20 October 28, 2025, meeting covered instrumentation projects and tool  
21 demonstrations, early warning systems, and revision of the instrumentation white  
22 paper. Hamid Haddadi presented the report from CGS on seven HCAI-funded  
23 wood frame hospital projects underway and nine other owner-funded hospitals  
24 on top of the seven funded by CGS. The committee discussed and  
25 recommended more emphasis on wood frame buildings, including two-story  
26 buildings. Planned installations for the year included Hollywood Presbyterian,  
27 Marina Del Rey, Scripps La Jolla, UC Irvine, and Olive-View UCLA. Hussain  
28 Bhatia demonstrated HCAI's new website tool to help visualize seismic data  
29 response spectra drift plots that engineers can use after earthquakes to  
30 understand how different instrumented buildings performed. Discussion occurred  
31 about the earthquake early warning system and a nine-hospital pilot group being  
32 suggested with a questionnaire to hospital administrators recommended to  
33 determine their needs for early warning considerations. Discussion also covered  
34 the potential revision of the white paper with planned webinars postponed to  
35 reflect new tool advancements. A leadership transition occurred at that meeting,  
36 with Martin Hudson agreeing to take over as chair of the committee.
- 37 • Item 12 was committee assignments. The Ad Hoc Board Procedures Committee,  
38 on which Gary Dunger and Jim Malley serve, supports policy and procedure  
39 updates of the Nominating Committee process and onboarding. Codes and  
40 Processes Committee, with Teresa Endres as chair, continues to update CANs  
41 and PINs, standard details, and any Title 24 code modifications. Education and

1 Outreach Committee, also chaired by Teresa Endres, has goals including design  
2 guide curriculum coordination, webinar development for planned webinars, and  
3 emphasizing awareness of the new eTIO program. Cody Bartley chairs the  
4 Energy Conservation and Management Committee, identifying projects for  
5 conservation costs and carbon footprint reduction, evaluating alternative energy  
6 sources and indoor air quality solutions, exploring wastewater technologies and  
7 microgrid activities, and potentially inviting commissioning agents to present  
8 findings. Martin Hudson is the new chair of the Instrumentation Committee,  
9 working on seminar development, white paper updating, and other outreach  
10 avenues with CGS. For the Structural and Nonstructural Regulations Committee,  
11 Belinda Young volunteered as architectural representative, and the committee is  
12 working on code changes, CANs, PINs, OPDs, SPC, NPC compliance status,  
13 and incorporating emerging materials and technologies. Gary Dunger chairs the  
14 Technology and Research Committee, with committee goals to be updated in the  
15 next committee meeting prior to the next board meeting. Three Full Board  
16 meetings were scheduled for this 2026, including the current meeting, August  
17 13th in Sacramento as a one-day meeting, and a two-day meeting on December  
18 9th and 10<sup>th</sup> in Los Angeles.

- 19 • Chris Tokas gave the OSHPD update, including achievement of strategic goals  
20 such as staying in the Sacramento office, updating Title 24 and OSHPD  
21 standards, continuing to advance compliance for 2030, and progressing on eSP  
22 modernization toward completion in early January 2026. Accountability and  
23 performance figures included \$23 billion in active work, 17,000 reviews, and an  
24 average turnaround time of 12 days. Integrated review procedures emphasized  
25 early involvement and complete and compliant submissions. Chris Tokas  
26 emphasized education, stakeholder engagement, innovation through seminars  
27 and outreach, collaboration with agencies like CDPH, and supporting innovation  
28 in all-electric and island hospitals. He reiterated the importance of timely field  
29 observations and inspections to ensure safety on the job.
- 30 • Additional content from Chris Tokas covered tools and resources, including  
31 checklists, pre-approvals, PINs and CANs, advisory guides, and educational  
32 resources covered in the Guide for Working on Projects Under HCAI Jurisdiction.  
33 Chris Tokas reported a trend of contractor-requested change orders increasing to  
34 about one third of total change order requests, which he felt was potentially the  
35 result of not having contractor involvement early in the design process.  
36 Discussion on owner and design professional responsibility for successful  
37 projects such as Kaiser San Marcos was echoed by board comments on the  
38 need for collaboration and early involvement of all stakeholders.
- 39 • Teresa Endres delivered a presentation on healthcare design trends, which  
40 covered precision patient-centered care and team-based decision making,  
41 integrating patients and families into the process, and the journey of care and

1 experience of care as key considerations. Discussion of evidence-based design  
2 included natural daylight and biophilic elements, physiological and recovery  
3 outcomes, satisfaction, and value and longevity shifting. Emphasis was placed  
4 on building up to 100-year life cycles for medical facilities through modular order,  
5 universal grid systems, prefab renovations, and staff familiarity. Hub-and-spoke  
6 models help decentralize care closer to communities, improving access,  
7 efficiency, and patient satisfaction. The importance of staff retention through  
8 staff-centric spaces, natural light, private areas, and amenities were discussed.  
9 Digital integration with AI, hybrid virtual in-person platforms, and smart rooms are  
10 transforming care. Discussion on demographic and rural challenges included the  
11 aging population and staffing shortages aided by integrating telehealth for rural  
12 clinics.

- 13 • Additional content from Teresa Endres covered designing for recovery beyond  
14 the acute care phase, designing beyond code minimums for flexibility, acuity  
15 adjustable rooms, surge capable units, and decentralized nurse stations. The use  
16 of virtual reality in design for walkthroughs and pre-assessments by users, post-  
17 occupancy evaluation, and human centered design including natural light and  
18 biofilm art in waiting areas to support patient and staff wellbeing was also  
19 covered. Noella Tabladillo suggested the board go on trips together to project  
20 sites, and Chris Tokas supported restarting that practice, which the board had  
21 done prior to the pandemic.
- 22 • Item 15 covered comments from the public and board members not on the  
23 agenda, with no further comments. The meeting was adjourned at 2:59 on  
24 December 11, 2025. A total of 10 motions occurred during the meeting, including  
25 the nomination of Cody Bartley as Vice-Chair of the Board, review and approval  
26 of board and committee meetings reports, endorsement of amendments to  
27 California Building Code sections discussed in the Codes and Processes  
28 Committee meeting and Structural and Nonstructural Regulations Committee  
29 meeting reports, all of which passed unanimously without opposition or  
30 abstentions.
- 31 • Action items from the meeting included electing the Vice-Chair, swearing in  
32 Belinda Young, reappointing Farzad Naeim, thanking Bert Hurlbut and Michael  
33 O'Connor, targeting the Collaborative Inspection Approach to Hospital  
34 Construction webinar for early January, completing the Ad Hoc HCAI Guide for  
35 Planning and Preparing for Disasters Webinar Development Subcommittee  
36 webinar outlines, scheduling the next meeting, Codes and processes endorsing  
37 amendments to building codes, the Structural and Nonstructural Regulations  
38 Committee endorsing amendments and discussing nonstructural force increases  
39 and AISC exceptions to be picked up this year, and the Instrumentation  
40 Committee continuing hospital installations, starting the early warning pilot

program, revising the white paper, starting educational videos, and preparing for the webinar.

- The OSHPD update discussed achievements of strategic goals and upcoming webinars. The healthcare design presentation discussed important trends in healthcare design toward pandemic resilient patient and staff centered facilities, future-proofed by technology and digital integration, citing UC Davis California Tower as an example, and reestablishing site visits. Committee assignments were laid out, board meetings established for the year, and subcommittees set up on collaborative inspection, advancing the disaster design guide, structural health monitoring, and pre-approved fabrication component work.

#### **Board and Public Comments**

- None

#### **Voting**

- Move to approve the December 10 and 11, 2025, Full Board meeting report.
- **Motion:** Farzad Naeim
- **Second:** Cody Bartley
- **Outcome:** Motion passed unanimously with no abstentions.

#### **Informational and Action Items**

- The board approved the December 10 and 11, 2025, Full Board meeting report.

### **5. Ad Hoc “HCAI Design Guide for Planning and Preparing for Disasters”**

#### **Webinar Development Subcommittee of the Education and Outreach Committee**

**Facilitator:** Teresa Endres, AIA, ACHA, EDAC, AAH, Principal, Sr. Medical Planner, HOK; Subcommittee Chair (or designee)

#### **Discussion and Input**

Teresa Endres stated that because the title "HCAI Design Guide for Planning and Preparing for Disasters" was such a mouthful, she would refer to it as "the guide." She presented an overview of three meetings: one at the end of last year and two this year, noting the committee had been busy. She listed the members and meeting dates and indicated the first meeting to review was November 20, 2025. She noted item 4 and item 5 looked similar because the committee discussed essentially the same content. The design guide had eight chapters, which the committee amended.

She emphasized that the design guide did not require any code changes, and the webinars were intended to go into greater depth than the ASHE PDC conference rollout, which was high level. The goal was to get into more detail and provide greater information for designers and owners. The process would be collaborative with OSHPD

1 staff, who would provide the same intro and outro for each webinar. Some webinars  
2 might merge as shown in later meetings.

- 3 • The committee decided on the following webinars: power independence;  
4 Wildland-Urban Interface (WUI) specific to the 2025 Title 24, Part 7; WUI specific  
5 to HVAC concerning smoke entering buildings; three versions of infection control  
6 covering HVAC, operations, and design; and hazard vulnerability assessment.
  - 7 ○ Teresa Endres mentioned the HCAI attorney was very pleased with the  
8 sub-sub leader concept. Each of the seven topics has two board members  
9 assigned, no more, to avoid violating Bagley-Keene.
  - 10 ○ The committee determined which items would actually have webinars,  
11 settled on the seven topics, discussed the schedule, went over  
12 expectations, set the next meeting for January 22, 2026, clarified  
13 assignments, and discussed supporting coordination and review.
  - 14 ○ Chris Tokas wanted to ensure internal review within OSHPD of outlines  
15 was included.

16 Teresa Endres moved to the January 22, 2026, meeting, noting it would be a long  
17 discussion, with the same seven webinar topics maintained. The first topic was Power  
18 Independence, with presenters John Griffiths, David Bliss, and Jamie Schnick. The  
19 committee reviewed outlines for each webinar, and the three major themes for Power  
20 Independence would be the definition of resilience, emerging threats and constraints,  
21 and solutions. Several suggestions were provided, which the presenters agreed to  
22 incorporate, including a data structure around site-specific power solutions, campus-  
23 wide energy mixes, code evolutions supporting microgrids, and case studies on Kaiser  
24 Ontario, Valley Children's, and Kaiser San Marcos projects that are built or being built.  
25 Additional content included clarification of design constraints and seismic requirements,  
26 and a call to action emphasizing technical feasibility, regulatory compliance, and fiscal  
27 viability.

- 28 • The next webinar was the WUI specific to the 2025 Title 24 Part 7, with  
29 presenters Gary Dunger and Janice Cheung. The webinar outline included  
30 introduction and context, overview of Title 24 part 7, Fire Hazard Severity Zones,  
31 Operational Impacts of Wildfire, and Emergency Planning and Readiness. Nanci  
32 Timmins had done a webinar around some of these themes, so Gary Dunger and  
33 Janice Cheung would be coordinating with her.
- 34 • The next topic was Wildland Urban Interface specific to HVAC, including the new  
35 ASHRAE Guideline 44. Two ASHRAE documents, a guideline and a standard,  
36 were created out of the pandemic and out of the wildfires occurring not only in  
37 California but across Canada and the United States, with Canadian fire smoke  
38 coming down into the United States. The webinar outline covered awareness,

1 planning, prevention, smoke intrusion, and mitigation of infiltrated smoke if it  
2 intrudes into the building.

- 3 • The next topic was infection control specific to HVAC, including the new  
4 ASHRAE standard 241 from the pandemic. The webinar outline included  
5 background and framework, design guide recommendations, filtration, return and  
6 exhaust air, augmentation with ASHRAE standard 241, supplemental content,  
7 and emerging data. Both HVAC presentations will be presented by Abdel  
8 Darwich and Mikhail Fuks.
- 9 • Topic five was infection control operations, with presenters Jennifer Cox and  
10 Kelly Martinez. Their outline included outbreak alert systems, foundational  
11 principles, regulatory and guideline frameworks, built environment  
12 considerations, infrastructure for surge events, morgue and surge capacity  
13 planning, water systems and preparedness, clinical operations during outbreaks,  
14 sterile processing, hazardous waste management, digital infrastructure and  
15 monitoring, facilities management integration, commissioning, recommissioning  
16 and validation, governance, and decision making. She remarked it would be a  
17 long webinar.
- 18 • Topic six was infection control specific to design, with Kelly Martinez and Teresa  
19 Endres as presenters. The outline was designed around diagrams already in the  
20 guide, building on a previous ASHE PDC presentation. The outline included entry  
21 level diagram, emergency department diagrams, conversation around clean and  
22 soiled flows within different departments and on site, pandemic ready patient  
23 units (developed with CDPH during guide development), and patient design room  
24 concepts (also developed with CDPH).
  - 25 ○ She noted much of the content overlapped with HVAC and operations, so  
26 in this meeting and the following meeting, the subcommittee proposed  
27 merging some of the three together to create a more comprehensive  
28 webinar, bringing mechanical engineers into what designers and operators  
29 need to look at and vice versa for more cross-pollination on infection  
30 control topics.
- 31 • Topic seven was the Hazard Vulnerability Assessment, with a typo in the slides  
32 where Jennifer Cox's name was misspelled. Kelly Martinez and Jennifer Cox  
33 would be the presenters. The hazard vulnerability assessment should frame  
34 hospital design either at the very beginning or end of the webinar series. She  
35 defined HVA as a systemic method for identifying, evaluating, and prioritizing  
36 risks to support strategic preparedness and building resilience, noting it is a Title  
37 22 and joint commission requirement. Hospitals score hazards across natural,  
38 technological, human, and hazardous materials categories, leading to a weighted  
39 score, which Jennifer Cox and Kelly Martinez would be reviewing. The committee  
40 decided to move from the outline phase of the January 22nd meeting to the slide

1 phase and set the next meeting for February 22, 2026, which got moved to  
2 March 11th. She again referenced biophilic art and the feeling of seedlings  
3 across the skin.

4 She moved to the March 11, 2026, meeting, in which most webinars had slides, noting  
5 the HVAC topics had two different webinars and built out a good slide deck for the WUI  
6 that would come back to the committee.

- 7 • For Power Independence, John Griffiths, David Bliss, and Jamie Schnick went  
8 over their slides with a few suggestions. The next step was to schedule the  
9 webinar once approved at the Education and Outreach Committee meeting on  
10 April 29, 2026.
- 11 • A few webinars were ready to go and just needed to be reviewed and approved  
12 at the Education and Outreach Committee level.
- 13 • Power Independence was one.
- 14 • The Wildland Urban Interface 2025 Title 24 part 7 was another, with the webinar  
15 scheduled for May 14, 2026.
- 16 • The Wildland Urban Interface HVAC with Abdel Darwich and Mikhail Fuks was  
17 also ready and would be reviewed and approved at the next Education and  
18 Outreach Committee meeting. Because Mikhail Fuks and Abdel Darwich were  
19 working diligently on the WUI- HVAC, Infection Control- HVAC would come back  
20 to the subcommittee once slides were ready. The Infection Control- Operations  
21 slide deck was not complete and would be reviewed in the next subcommittee  
22 meeting. The Infection Control- Design was complete and would be reviewed in  
23 the next Education and Outreach Committee meeting, though it might be  
24 combined with other topics. The hazard vulnerability assessment slide deck was  
25 ready and might be folded in with the HVAC infection control and design infection  
26 control topics.

## 27 **Board and Public Comments**

- 28 • Jim Malley asked whether the program would be advertised as a coordinating  
29 program all at once, listing all the seminars and when they would occur, and  
30 asked how many webinars people would want to attend.
  - 31 ○ Teresa Endres responded that there would probably be four webinars  
32 instead of seven because three are combining. She had written the  
33 description, which Chris Tokas was approving. The description indicated  
34 each webinar was part of a series but did not list all webinars in the series  
35 to avoid causing angst. Each flyer would state the webinar was part of a  
36 series designed around the Design Guide to provide greater detail.

- Jim Malley asked whether the first webinar would outline the whole series or whether each presentation would mention the series.

- Teresa Endres explained that Richard Tannahill would be writing the intro and outro for OSHPD, so each webinar would have the same intro and outro, and presented by OSHPD staff to provide continuity between the board and OSHPD collaboration.

- Jim Malley remarked it sounded like an amazing effort and would be a keynote or key outreach element. He thanked everybody on the subcommittees.

## **Voting**

Approve the November 20, 2025, January 22, 2026, and March 11, 2026, meeting reports of the Ad Hoc HCAI Design Guide for Planning and Preparing for Disasters Webinar Development Subcommittee.

- **Motion:** Teresa Endres
- **Second:** Michael Davis
- **Outcome:** Motion passed unanimously with no abstentions.

## **Informational and Action Items**

- The board adopted the November 20, 2025, January 22, 2026, and March 11, 2026, meeting reports of the Ad Hoc HCAI Design Guide for Planning and Preparing for Disasters Webinar Development Subcommittee.
- The subcommittee identified seven webinar topics:
  - Power Independence
  - Wildland Urban Interface (2025 Title 24, part 7)
  - Wildland Urban Interface (HVAC)
  - Infection Control (HVAC)
  - Infection Control (Operations)
  - Infection Control (Design)
  - Hazard Vulnerability Assessment, with the possibility of combining several into approximately four webinars.
  - Wildland Urban Interface 2025 Title 24-part seven webinar was scheduled for May 14th.

1 **6. “Collaborative Inspection Approach to Hospital Construction” Webinar**  
2 **Development Subcommittee of the Education and Outreach Committee**

3 **Facilitator:** Michael L. Davis, CHI, CEO Emeritus, DavisHBC, Inc; Subcommittee Chair  
4 (or designee)

5 **Discussion and Input**

6 Michael Davis thanked Jim Malley and introduced the next component as the  
7 collaborative inspection approach to hospital construction, formally called the Inspect to  
8 Pass Webinar Development Subcommittee. He reported that on January 14th, the  
9 subcommittee delivered the actual webinar, which was the focus of his report at the  
10 board meeting.

- 11 • He presented statistics on the webinar. There were approximately 775 registrants  
12 and 492 attendees, with the caveat that some attendees were large groups, he  
13 knew of at least two contractors who had conference rooms filled with up to 20  
14 people listening, so the actual number of listeners was understated. There were  
15 37 questions asked. Of attendees, 39% took the time to respond to the survey at  
16 the end, which he described as great. Among respondents, 82% scored the  
17 webinar between an eight and 10, which he characterized as a very high ranking  
18 and good feedback.
- 19 • He highlighted several pertinent comments and feedback. Item number two  
20 emphasized the importance of owner involvement throughout all phases of the  
21 project. He recalled that during subcommittee meetings, this was discussed  
22 many times, and that Chris Tokas brought it up repeatedly, noting that a  
23 disengaged owner causes the project to suffer. The point was apparently  
24 delivered well.
- 25 • He noted item number four about the contractor's role of Q&A first, then  
26 inspection. Cody Bartley covered this carefully in his part, and the point came  
27 across because without it, collaboration fails in the construction process.
- 28 • He highlighted item number five, which stated it was informative and inspiring to  
29 hear the same ideas rephrased from each shareholder's point of view. He  
30 explained the committee wanted to emphasize that collaboration happens at  
31 each level, ownership, designer, contractor, inspector, jurisdiction, and the  
32 feedback reinforced that the message came across. The comment also noted it  
33 was good to see the standard baseline expectations of each party within the  
34 process.
- 35 • Item number six was a similar comment about overlapping perspectives  
36 regarding teamwork being incredibly validating, returning to the message that  
37 everyone on a team wants the project to be successful. He stated this  
38 summarized the committee's core message: collaborate and be successful.

- Item number seven mentioned owner engagement during construction and including IOR and the OAC. He referenced the suggestion of changing the OAC name culturally to OACI to bring in the inspector.
- Item number 10 stated the respondent was happy to hear the consistent inspect to pass philosophy continued to be demonstrated in HCAI webinars. He emphasized this was not the end and more would follow. Chris Tokas would eventually provide dates, times, or avenues for future in-person seminars.

## **Board and Public Comments**

- Teresa Endres remarked that she loved Michael Davis's enthusiasm. As a designer at the very front end with over 30 years of experience, she had sat in many rooms where the contractor or IOR was not present and observed how that affected projects. She thanked him for the webinar.
- Chris Tokas:
  - Thanked all who contributed, calling the topic much needed.
  - Stated the entity 100% responsible for delivering a successful project is the owner. Without owner engagement and corralling of teams from design professionals to contractors and IORs, projects go awry, leading to change orders and delays, and the doors do not open for the people of California. The ultimate goal was delivering successful projects, which is why collaboration as one cohesive team mattered. The winners were the people of California, not any individual party. Unsuccessful projects became expensive, especially in today's environment where materials change moment by moment.
  - Stated this was not the end and his dream was to present this in a comprehensive one-day seminar to allow dialogue with participants, though budgetary issues remained. He noted the inspect to pass concept started in 2013 with original papers written then, and now there was a descriptive presentation with discussions, not just a paper few would read. He emphasized every member touching the project is fully responsible for delivering a successful project.
  - He acknowledged that contract structures existed but stated none of it mattered without owner engagement, especially with multi-prime contracts. He emphasized cohesive collaboration between the board and OSHPD was necessary. He wanted money put into healthcare, not into delays or change orders, and thanked the committee for delivering something extremely valuable.
- Jim Malley thanked Chris Tokas for the great comments and looked forward to a full day to engage more deeply with the community.

- Teresa Endres suggested letting people know all webinars are posted to the website and wondered if there was a way to amplify reach by working with partners like AIA and others.

#### **Informational and Action Items**

- Michael Davis reported the Inspect to Pass webinar was delivered on January 14th with approximately 775 registrants, 492 attendees (understated due to group viewing), 37 questions asked, 39% survey response rate, and 82% of respondents scoring the webinar between eight and 10.
- Chris Tokas indicated future plans to develop the material into a comprehensive one-day seminar, eventually a guide, and ultimately a book available to the entire industry.
- Teresa Endres suggested amplifying webinar reach through partner organizations such as AIA.

### **7. Ad Hoc Educational Opportunities to Advance Structural Health Monitoring by Hospitals Subcommittee of the Education and Outreach Committee**

**Facilitator:** Martin Hudson, PhD, PE, GE, Principal Geotechnical Engineer, Hudson Geotechnics, Inc.; Subcommittee Chair (or designee)

#### **Discussion and Input**

Martin Hudson stated the subcommittee was established at the last board meeting and that draft minutes from January 29, 2026, were available for review, along with an overview of the March 26th meeting since those minutes were not yet ready.

- He provided a summary of subcommittee members and noted it was a subcommittee of the education committee, oriented toward education like many others. He referenced the two meetings on January 29th and March 26th. He showed an example of Olive-View UCLA Medical Center with locations of instruments, explaining the purpose was to educate hospital owners on the utility of having seismic instruments in their buildings and to spread that knowledge through hospitals in the state.
- He began with January 29, 2026: Co-chairs were himself and Courtney Johnson, with Janice Cheung, Jim Malley, Farzad Naeim, and staff also participating. Item three of the minutes covered the materials the subcommittee was starting with, specifically the white paper "Seismic Instrumentation of Healthcare Facilities," issued by the board through the Instrumentation Committee in 2023. The subcommittee asked whether the white paper was good as it stood or whether it needed an addendum or rewrite, with discussions ongoing.

- 1 • The second consideration was how to incorporate recent advancements, since  
2 seismic instrumentation had advanced rapidly since 2023. The third was how to  
3 enhance accessibility of the information for non-engineers, noting engineers  
4 could rapidly “geek out” about data while owners needed clear bullet points about  
5 investment requirements and benefits in the webinar. The final point was that  
6 real-time data streaming was already occurring, with two hospitals from his  
7 earlier example transmitting real-time data, making the streaming component  
8 very important for understanding building performance immediately after an  
9 earthquake.
- 10 • He noted the nature of instruments has changed significantly. The instruments  
11 themselves can now look as simple as a small box the size of an iPhone stuck on  
12 a wall and plugged in. The message that instrumentation does not require a big  
13 retrofit could be communicated to owners. Without instruments, no data can be  
14 obtained on what happened in an earthquake, and a small percentage of  
15 hospitals are currently instrumented, which is why education is needed since  
16 many owners do not know instrumentation exists or its utility. As part of outreach,  
17 the subcommittee needed feedback from stakeholders to understand their needs  
18 and how they would use the instrumentation, rather than dictating use. The third  
19 bullet emphasized the educational nature and the need for usable, concise, and  
20 clear material.
- 21 • Item four addressed goals. He referenced the previously stated goal at the last  
22 board meeting: to develop educational opportunities to advance utilization of  
23 structural health monitoring by hospitals using seismic instrumentation. He noted  
24 "health" in this context refers to structural or building health rather than people's  
25 health. The subcommittee identified additional goals beyond this. The first goal  
26 was a public-facing summary document, since the white paper was full of jargon  
27 and thick, a roughly two-page (possibly less) companion summary was needed.  
28 The second goal was a webinar series. The third was a how-to implementation  
29 guide explaining what steps to follow with examples for owners ready to  
30 implement instrumentation, addressing questions like who to call and what  
31 implementation looks like. The fourth, marked "possibly," was an addendum or  
32 revision to the white paper, with the subcommittee leaning toward an addendum  
33 because of instrument advances.
- 34 • Considerations included gathering testimonials from hospitals that implemented  
35 instrumentation, gathering vendor information since HCAI does not perform  
36 instrumentation and vendors had not yet been engaged, and use of less  
37 expensive MEMS sensors. Leads were assigned: Martin Hudson on the public  
38 overview document, Courtney Johnson on the webinar series outline structure,  
39 Jim Malley on the draft of the implementation guide, and Janice Cheung as the  
40 "guinea pig" to ensure materials were accessible without jargon. The white paper  
41 addendum decision and stakeholder identification remained open.

- For item five on future meetings, the subcommittee decided the first vendor, Safehub, would come to the next meeting to explain what they had done and answer questions, without bias toward any particular vendor. The next meeting was set for March 10, 2026, to discuss implementation. He noted Safehub was not previously known to him before this work began.

## **Board and Public Comments**

- Jim Malley raised a comment regarding insurance, noting that some hospitals implementing instrumentation were obtaining parametric insurance, a type of insurance that allows immediate payout from the insurance company upon a triggering event, which could be an earthquake or other event. He explained the instruments were vital because the contract between the hospital and the insurance company could use a threshold from instrument readings or a response to trigger the payment. Without instruments, the determination would become an argument between the owner and the insurer. He had not previously known about this type of insurance and considered it a valuable addition to the return on investment for instrumentation.

## **Voting**

Approve the January 29, 2026, meeting report of the Ad Hoc Educational Opportunities to Advance Structural Health Monitoring by Hospital Subcommittee.

- **Motion:** Martin Hudson
- **Second:** Teresa Endres
- **Outcome:** Motion passed unanimously with no abstentions.

## **Discussion and Input (March 26, 2026, meeting overview)**

Martin Hudson gave the overview, stating the subcommittee wanted another meeting where a primary objective was to learn more from a vendor about how to accomplish instrumentation. The subcommittee first reviewed and approved the draft January 29, 2026, meeting report. Item four featured presenter Evan Reis from Safehub, who had successfully implemented instrumentation at buildings around the world. Item five reported that California Geological Survey (CGS) had started producing a short video for use in webinars or to attract attendees, and the subcommittee reviewed a rough cut that was looking good, the videos would be professionally produced. Item six addressed progress on deliverables. The two-page summary document was finished but now under revision based on Evan Reis's presentation. The how-to guide was in process. The webinar outlines were in process. Discussion continued on whether to update or provide an addendum to the white paper, which was not yet decided. He concluded the overview, noting there was no report requiring approval.

1 **Board and Public Comments (March 26, 2026, meeting overview)**

- 2 • Jim Malley confirmed the March 26, 2026, minutes would be approved at the  
3 August 13, 2026, Full Board meeting and thanked Martin Hudson.

4 **Informational and Action Items**

- 5 • The board adopted the January 29, 2026, meeting report of the Ad Hoc  
6 Educational Opportunities to Advance Structural Health Monitoring by Hospital  
7 Subcommittee.
- 8 • The subcommittee identified four deliverables:
- 9 ○ public-facing summary document (lead: Martin Hudson)
- 10 ○ webinar series outline (lead: Courtney Johnson)
- 11 ○ how-to implementation guide (lead: Jim Malley)
- 12 ○ possible white paper addendum or revision pending further discussion
- 13 • Janice Cheung was assigned as the accessibility reviewer to ensure materials  
14 avoided jargon.
- 15 • Safehub was identified as the first vendor presenter, with Evan Reis presenting  
16 at the March 26th meeting.
- 17 • CGS began producing professional videos to support the webinar series. The  
18 two-page summary document was completed and entered revision following the  
19 Safehub presentation.
- 20 • The March 26, 2026 meeting minutes will be presented for approval at the  
21 August Full Board meeting.
- 22

23 **8. Ad Hoc How-To-Guide Development for Preapproved Fabricated Components**  
24 **and Systems Subcommittee of the Education and Outreach Committee**

25 **Facilitator:** Cody Bartley, DPR Construction; Subcommittee Chair (or designee)

26 **Discussion and Input**

27 Cody Bartley stated the report covered an overview and approval of the February 12,  
28 2026 meeting minutes, plus a high-level overview of the March 19, 2026, meeting,  
29 where three guest presenters had appeared.

- 30 • Topic one of the February meeting was a review of introductory materials. The  
31 subcommittee was developed to build upon a webinar hosted in 2024 and was  
32 now in its next stage. Discussion focused on where to take that work, with the  
33 committee originally discussing a white paper that has since been clarified into

an advisory guide. The February meeting was a brainstorming session covering what had been previously presented and where to take the next step.

- The committee discussed inviting vendors to obtain input on their experience getting the PCS (Preapproved Component System) and what their experience had been like using the PCS. The committee invited Durafuse, SurePods, and Starc, who would present at the March 19, 2026, meeting.

- Points covered in the first webinar included definitions, the process, the TIO, examples, and Q&A, strong sections of the original webinar that needed to be put to paper for project sector evaluation reference. The inspection process was discussed in depth. The white paper would need to cover inspections for products with PCS, inspections for shop welding versus field welding, and how TIOs are developed. He referenced a story about SurePods that would come up later.

- Topic two covered the approach: a high-level outline, engaging with industry manufacturers, and distributing the Q&A from the prior webinar. The goal coming out of the February meeting was to produce the white paper. The next meeting was set for March 19th, with a goal of meeting one time per month until the white paper is complete, scheduling on a month-by-month basis based on availability. No motions were made at this meeting.

## **Board and Public Comments**

- None.

## **Voting**

Approve the February 12, 2026, Ad Hoc How-To-Guide Development for Preapproved Fabricated Components and Systems Subcommittee meeting report.

- **Motion:** Cody Bartley
- **Second:** Carl Newth
- **Outcome:** Motion passed unanimously with no abstentions.

## **Discussion and Input (March 19, 2026, meeting overview)**

Cody Bartley moved to the March 19th meeting overview. Vendor presentations from Durafuse, SurePods, and Starc were strong. Two of the presenters had PCSs and could speak directly to the process and advantages of obtaining a PCS. Starc presented on an OPM, providing fire life safety input on getting their system approved.

- The first presenter, Justin Marshall of Durafuse, was on version three of their PCS, allowing the subcommittee to hear about his initial submission and follow-up modifications. SurePods was also on version three, with similar perspective

on initial submission and subsequent modifications. The product evolution was a key driver to be tailored into the white paper.

- When Justin Marshall of Durafuse was asked what he had seen since obtaining the PCS, he reported being listed on more projects and seeing more opportunities in hospital work because of the PCS. The same insight came from SurePods, which had been an untapped market and was now adding geometry and other systems to its SurePods. There were many comments on the timeline of first submission, which the white paper would help outline so participants know what to expect. Benefits were clear from all three presenters.
  - He noted the next meeting was scheduled for May. Between now and May, the subcommittee was assembling content, step one was wrangling existing presented material, regardless of whether the deliverable was a white paper or advisory guide. The next meeting would tailor the information into the advisory guideline and determine where to launch it, with a goal of release by the end of the year.

#### **Board and Public Comments (March 19, 2026, meeting overview)**

- Scott Karpinen noted the committee was focused on preapproved fabricated components and that prefabrication from all sources had also been discussed. He emphasized not losing sight of that broader scope. He shared an email he received that day about a project building pipe stands with confusion about inspections, a small fillet weld that does not require continuous inspections but does require intermittent inspections. There was uncertainty about whether inspectors needed to be in the shop before, during, or after, or whether inspections should occur in the field as had been done in the past. He noted the industry was still confused, even potentially rejecting and reshipping parts. He suggested the committee could outline Q&A to help document the issue, even though it is in the code.
- Chris Tokas referenced part two of the effort on pre-assembled systems, which has a peculiarity, it must be part of the approved documents where all the details appear. He used piping as an example, noting actions could be created and delivered as a unit directly in place but only on a project-specific basis, which is why it must be part of the design and approved documents to avoid these questions. He confirmed the committee in part B (part two) goes in this direction.
  - Scott Karpinen acknowledged the response, noting the particular project had an approved detail on the contract drawings showing how to build it. The remaining issue was the inspection process when things are prefabricated, it is part of the document, just built elsewhere. He offered the example as good food for thought.

## **9. Instrumentation Committee**

**Facilitator:** Martin Hudson; Committee Chair (or designee)

### **Discussion and Input**

Martin Hudson explained item seven was a subcommittee of the Education and Outreach Committee about instrumentation, while item nine was the Instrumentation Committee, the two were linked through the prior effort discussed. He noted the presentation would be brief because minutes were not yet in the package, so it was just an overview.

- He provided a summary of committee members, noting the membership looked similar to the subcommittee with some differences. He was co-chairing with Courtney Johnson, with chair emeritus Farzad Naeim still on the committee.
- The meeting took place on March 24, 2026. The first bullet, item number three on the agenda, was nearly a replication of the subcommittee meeting, the same vendor (Safehub) presented again. Some committee members had not heard the subcommittee presentation, and personally hearing it twice was useful as it generated more questions.
- The instruments themselves were strong, and he believed industry focus would need to be on more sophisticated interpretation of the data.
- Item four was an update from CSMIP (California Strong Motion Instrumentation Program) on CSMIP implementation of instruments at hospitals.
- Item five informed the Instrumentation Committee how the Ad Hoc Subcommittee was doing. He concluded the simple overview and handed back to the chair.

### **Board and Public Comments**

- Chris Tokas offered that as part of what is called building health monitoring, specifically for hospitals, OSHPD had already started taking advantage of specific sites where additional instrumentation could be added or connected to existing instrumentation for early warning sensors. He explained the value depends on distance; 30 seconds or three minutes provides preparation time for a surgeon to lift the scope or for the hospital to take measures,
- He referenced Martin Hudson's earlier discussion of health monitoring and explained why he had insisted on the term "building health monitoring" rather than "structural health monitoring." He noted the industry, not OSHPD specifically, had historically looked at collected signals for time correlation, but had not addressed the value to the user or hospital. Low-cost instruments needed to be utilized for nonstructural components, systems, and equipment so hospitals would know after an event, before consultants step in, whether they are operational. That was the direction needed. Work had already started on the

learning system and more would follow. He emphasized the education component must engage the user, the hospital, and demonstrate value.

- Farzad Naeim noted CSMIP performs high-end instrumentation that is highly reliable and useful, while MEMS devices have lower resolution but could still be very helpful. He asked how many present had heard of the project MyShake, sponsored by CalOES. The project uses people's cell phones, over 10,000 subscribers had downloaded it on Apple Watches or phones. The project tracks cell phones, and if the phones are stationary in a building, it senses excitation experienced by the phone to perform basic building health monitoring based on the number of cell phones in a building. Examples included high-rise buildings in downtown Los Angeles where the system sensed activity during small earthquakes. He concluded that data is needed from both the very top end and the very low end, and all data must be used in a user-friendly way so hospital staff and administrators can use it.
- Martin Hudson mentioned that many hospitals had been evacuated after major earthquakes when evacuation was not needed, putting people's health at severe risk. Effort goes into ensuring buildings do not fall down, but if staff see a crack and decide everyone must leave, the building cannot fulfill its purpose. The long-term goal was for systems to provide green-light, yellow-light, red-light status so administrators could tell occupants to stay. He noted the Education and Outreach Committee may need to fold in an explanation of what one falling ceiling tile or one drywall crack means, namely, that it does not necessarily indicate a problem. This needed to tie together with the health monitoring system providing hard data. The forward-looking goal was to help the public by keeping facilities running.

## **Informational and Action Items**

- Martin Hudson reported that the Instrumentation Committee met on March 24, 2026.
- Safehub presented to the committee following its earlier presentation to the subcommittee.
- CSMIP provided an update on instrumentation implementation at hospitals.
- Chris Tokas reported OSHPD had begun integrating early warning sensor instrumentation at hospitals and emphasized "building health monitoring" over "structural health monitoring" to focus on user and hospital value, including non-structural components and equipment.
- Farzad Naeim raised awareness of the CalOES-sponsored MyShake project, which uses cell phone data from over 10,000 subscribers for basic building health monitoring.

- Martin Hudson identified the long-term goal of green/yellow/red light status indicators to prevent unnecessary hospital evacuations after earthquakes and noted the education committee may need to fold in interpretive guidance for visible damage such as ceiling tile or drywall cracks.

## **10. Education and Outreach Committee**

**Facilitator:** Teresa Endres; Committee Chair (or designee)

### **Discussion and Input**

Teresa Endres stated the meeting was held on March 4, 2026. Michael Davis presented an update on the Collaborative Inspection Approach to Hospital Construction webinar at the meeting. Teresa remarked she was very excited by the impressive statistics.

- The committee discussed the Ad Hoc Design Guide for Planning and Preparing for Disasters Webinar Development Subcommittee, on which more details had been provided earlier in the morning. The sub-subcommittees were established to comply with Bagley-Keene. The intent of the webinar series was to go into greater detail on the many topics within the guide than were possible in the one-hour presentation at the ASHE PDC. There were seven topics, and the number might be reduced because some topics fit together well as a single webinar.
- Teresa Endres moved to an update on the Ad Hoc Educational Opportunities to Advance Structural Health Monitoring By Hospital Subcommittee.
- The next topic was an update on the Ad Hoc How-To-Guide Development for Preapproved Fabricated Components and Systems Subcommittee, which Cody Bartley had recently shared. The first meeting was held on February 12th with next steps Cody Bartley had detailed earlier in the morning. A white paper draft was in review, and three industry speakers had presented to the subcommittee at the February 12, 2026, meeting.
- The committee discussed the possibility of doing a webinar on the newly released functional program advisory guide, which was published in September 2025. She explained that BSU often previews work at the AIA Central Valley Academy of Architecture for Health's "OSHPD Share" sessions to obtain feedback and that BSU had a nice slide deck on the functional program advisory guide already presented at the "OSHPD Share".
  - The Committee discussed using those slides for the webinar. It was acknowledged that AIA had not sent OSHPD the compliance diagrams that were initially meant to be in the advisory guide, and OSHPD would be reissuing the advisory guide with those compliance diagrams, after which the webinar could be developed.

## **Voting**

Approve the March 4, 2026, Education and Outreach Committee meeting report.

- **Motion:** Teresa Endres
- **Second by:** Kelly Martinez
- **Outcome:** Motion passed unanimously with no abstentions.

## **Informational and Action Items**

- The board adopted the March 4, 2026 meeting report of the Education and Outreach Committee.
- The board received updates on the Collaborative Inspection Approach to Hospital Construction Subcommittee, the HCAI Design Guide for Planning and Preparing for Disasters Webinar Development Subcommittee, the Ad Hoc Educational Opportunities to Advance Structural Health Monitoring by Hospitals Subcommittee, and the Ad Hoc How-To-Guide Development for Preapproved Fabricated Components and Systems Subcommittee.
- The board identified a potential webinar on the September 2025 Functional Program Advisory Guide, with Eric Jacobson, Clara Wu, and Teresa Endres as champions, pending OSHPD's reissuance of the advisory guide with compliance diagrams that AIA had not initially provided.

## **11. Appoint a Nominating Committee for Chair and Vice-Chair elections at the August 2026, Full Board meeting**

**Facilitator:** Jim Malley (or designee)

### **Discussion and Input**

Jim Malley introduced the item to appoint a Nominating Committee for the chair and vice chair election to be held in August. He took on the discussion personally and noted there were no slides. He briefly explained the process for newer board members who might be voting in such an election for the first time.

- He explained that every other year at this meeting, the chair appoints a Nominating Committee for the chair and vice chair elections to be held at the next meeting in August. The election would take place in the afternoon of the August meeting. The chair announces those selected to serve on the Nominating Committee, and the Nominating Committee members are usually members not eligible to serve as chair or vice chair. He selected the two new members, Michael Foulkes and Scott Karpinen, for the committee and noted both were well suited to the role.

- Jim Malley confirmed there had never been a Nominating Committee without Michael Foulkes, and noted Scott Karpinen, having previously served on the board and as former chair, had the correct background. He thanked both for agreeing to serve.
- He explained the elections would be held at the next meeting. Anyone wishing to nominate someone or nominate themselves should reach out to Veronica Yuke and to Michael Foulkes and Scott Karpinen to inform them of the intention to be considered. While there was no strict deadline, the intent was for the committee to interview the candidates before the August meeting.
- At the August meeting, the Nominating Committee would explain the nomination process, present its slate, and invite new nominations from the floor. If new nominations occurred, Michael Foulkes and Scott Karpinen would interview those candidates during a break or lunch and decide whether the new nominees changed their proposed slate. In the afternoon, the board would proceed with the voting process. The election would occur on the spot, and the elected officers would be sworn in at the December meeting.
- He encouraged anyone interested in being considered for chair or vice chair to inform Veronica Yuke, Michael Foulkes, and Scott Karpinen so they could be scheduled for an interview.

#### **Board and Public Comments**

- Michael Davis asked if the chair and vice chair election is held every two years.
- Jim Malley confirmed every two years and noted it is a two-year position. No other questions or comments were raised by any members of the board or members of the public during this agenda item.

#### **Informational and Action Items**

- Jim Malley appointed Michael Foulkes and Scott Karpinen to the Nominating Committee for the chair and vice chair election to be held at the August 2026 Full Board meeting.
- Members of the board interested in being considered for chair or vice chair were directed to contact Veronica Yuke, Michael Foulkes, or Scott Karpinen to schedule an interview before the August meeting.
- The Nominating Committee will present a recommended slate at the August meeting, accept floor nominations, and conduct the election in the afternoon, with elected officers sworn in at the December meeting.

1 **12. Office of Statewide Hospital Planning and Development (OSHPD) Update**

2 **Facilitator:** Chris Tokas, SE, F.SEAOC, CBO, Deputy Director, HCAI (or designee)

3 **Discussion and Input**

4 Chris Tokas thanked attendees for their hard work and noted the people of California  
5 appreciated the board. He stated he would discuss the value delivered collectively by  
6 both the board and OSHPD. He described the output for the first trimester of 2026 as  
7 amazing.

- 8 • He restated OSHPD's role and mission: serving hospitals, patients, families,  
9 communities, and everyone who depends on safe, resilient, and well-designed  
10 healthcare facilities. He compared a hospital building to a living organism, an  
11 artificial organism, because human life is connected to the facility. The structure  
12 represents bones while mechanical and other systems deliver functionality.
- 13 • He outlined that he would connect modernization efforts, inter-agency  
14 coordination, and statewide cycle compliance work to outcomes that matter most:  
15 continuity of care and public trust. He divided the briefing into four parts: major  
16 initiatives and modernization; industry engagement and inter-agency  
17 collaboration; project activity and field performance; and seismic compliance and  
18 progress made today.
- 19 • Referring to Michael Davis's earlier presentation, he stated OSHPD is the biggest  
20 educational institution in the world based on its output of webinars, seminars,  
21 guides, and how-to documents, not just for California or the United States but  
22 worldwide. He noted hospitals navigate an intense regulatory landscape  
23 including workforce shortages, sustainability expectations, and construction  
24 complexity, with the 2030 deadline approaching. OSHPD's role is to guide  
25 hospitals and stakeholders through this transition with clarity, predictability, and  
26 technical experience.
- 27 • He referenced a slide borrowed from Deputy Division Chief Arash Altoontash's  
28 presentation in San Diego at the PDC. The core of the transformation was a  
29 mindset shift to human-centered design. He noted the concept originated at  
30 Stanford in 1958 and was later brought into architectural and engineering  
31 professions. OSHPD adapted human-centered design in every aspect of work.
- 32 • Arash Altoontash explained OSHPD builds for patients, communities, healthcare  
33 providers, facility management, and others. The organization spent considerable  
34 time and resources training the entire team in human-centered design.
- 35 • Chris Tokas added that for OSHPD, human-centered design was not just words  
36 but a branding, philosophy, and operating principle. It guided how OSHPD

1 reviewed project submittals, interacted with design teams, coordinated with other  
2 agencies (CDPH, CGS), and supported hospitals through construction.

- 3 • Arash Altoontash referenced an internal article written by Chris Tokas in  
4 OSHPD's quarterly internal publication. The article questioned the motive of  
5 OSHPD staff and explained the agency's existence as a public service  
6 organization committed to making a difference.
- 7 • Chris Tokas explained the question of how to bring human-centered design into  
8 OSHPD's daily work was answered through consistency, intentional redesign of  
9 processes and communications around core values, and through meetings to  
10 hear pain points. The goal was reduction of friction and improving clarity. Human-  
11 centered design reshaped plan reviews, simplified information submission and  
12 review, and refined instructions, expectations, and platforms for transparency  
13 and clarity.
- 14 • Arash Altoontash spoke about empathy and understanding stakeholder pain. He  
15 shared a personal example of dreading a call to the IRS regarding identity theft.  
16 He stated OSHPD trains staff and supervisors to understand pain points and to  
17 help. While OSHPD is a regulator, it is also a partner in achieving compliance, an  
18 admittedly fictitious goal because compliance interpretation differs by individual.  
19 He described the shift from a compliance mindset to a performance mindset,  
20 from "my way or the highway" ego and heavy-handed enforcement to  
21 collaboration through samples, pilot projects, pre-approvals, and other avenues.
- 22 • Chris Tokas echoed the shift from authority to collaboration, ego to excellence,  
23 and "tell us why this won't work" to "let us sit down together to figure out how this  
24 can work." He emphasized hospital buildings are difficult to design and build, with  
25 lessons learned and easier delivery methods. He described OSHPD listening  
26 with intent, piloting programs at small scale, and refining before full  
27 implementation. Field operations also followed this approach, providing real-time  
28 information, transparent expectations, and tools like eTIO. The field approach  
29 aimed at partnerships, clear communication, and elevating construction  
30 compliance through shared accountability rather than positional authority.
- 31 • Arash Altoontash described intensive listening as part of human-centered design,  
32 sitting down, empathizing, listening without defending, providing solutions, or  
33 solving problems. OSHPD brought in a design-builder client who was willing to  
34 participate. The session lasted several hours, focused on understanding pain  
35 points without justification or whitewashing. Big-ticket pain points included staff  
36 changes (when long-term project staff retire), cost increases, complex  
37 regulations, design professionals creating unreal regulations, the growth of ASCE  
38 7 from a pamphlet to a two-volume publication, uncertainty in dealing with  
39 people, fear of retaliation, field-directed changes, and the "OSHPD factor" used

1 to escalate costs in fee bids. He stated that once these pain points are  
2 understood, they can be addressed.

- 3 • Chris Tokas explained OSHPD holds meetings with stakeholders both as an  
4 organization and project by project. When projects go awry, OSHPD brings  
5 stakeholders and design professionals into the office to identify what is not  
6 working and what is delaying the project. He emphasized OSHPD is not just a  
7 building department but exists to deliver healthcare. He noted asking  
8 stakeholders directly about pain points (inconsistencies, delays, unclear  
9 expectations) and using these to design solutions that pay dividends for both  
10 sides.
- 11 • Arash Altoontash recalled that when he was hired by OSHPD, he initially thought  
12 he should operate the way he had been treated, by creating unsolvable problems  
13 to show off intelligence and experience. His supervisor corrected him, and  
14 instructed him to design solutions rather than create unsolvable problems. He  
15 described a cohesive team of like-minded people now operating "the OSHPD  
16 way," based on partnership with dozens of categories of stakeholders working  
17 seamlessly. OSHPD empowering stakeholders rather than berating or hindering  
18 them. Communication needed to be clear, with comments clarified and repeated  
19 as needed.
- 20 • Chris Tokas brought up Paul Coleman, the previous Deputy Director, who said  
21 arguments based on "what if" are lost arguments. As an engineer, it is a design  
22 engineer's job to assess "what if" scenarios and risk; as a regulator, OSHPD's job  
23 is to enforce code minimum.
- 24 • He restated OSHPD's purpose as advancing collaboration with healthcare  
25 facilities, with people, Californians, clinicians, and communities at the center. He  
26 noted hospitals are the number one employer for many communities. The job is  
27 regulatory but the impact is human.
- 28 • Chris Tokas recalled the message: "help us help you." Success starts with the  
29 owner and design professionals submitting finished documents. With finished  
30 documents, OSHPD can move quickly; with unfinished documents, the back-and-  
31 forth is costly. He referenced the December slide outlining each entity's  
32 responsibilities and the example of integrated reviews based on collaboration.  
33 The intent of integrated reviews, also called collaborative reviews, is for everyone  
34 involved at the same time during design (contractor, subcontractor, design  
35 professional, etc.) to produce finished documents so the contractor can simply  
36 build. He asked rhetorically why projects then reach approval of individual  
37 increments and why participants try to bring elements from increment five into  
38 increment two. He used the example of facilities completed in record time,  
39 concept to completion in four years, confirming this is achievable.

- 1 • He moved to eTIO modernization. The TIO has been a critical requirement under  
2 the California Administrative Code, originating in Chapter 17 with testing and  
3 inspection requirements for quality control and quality assurance. Without proper  
4 construction, even properly designed buildings fail. Past problems with the paper-  
5 based system included lost forms, delayed approvals, inconsistent updates, and  
6 limited visibility. eTIO would offer dynamic, real-time updates, immediate visibility  
7 of all testing and inspections, single source of truth, automatic integration into  
8 project records, milestones, and fewer misunderstandings on the job site.  
9 Several projects were currently testing the system.
- 10 • Richard Tannahill noted eTIO was still seeking volunteers for testing and  
11 suggested that smaller projects would be ideal because they require the same  
12 testing as larger projects, and asked anyone interested to email him.
- 13 • Chris Tokas noted the eSP (Electronic Services Portal) transition to fully cloud-  
14 based had been completed by the consultant in November/December with no  
15 service disruption. eSP is fully functional in the cloud and supports plan review  
16 through field operations.
- 17 • He emphasized outreach allows OSHPD to interact, listen, and create dialogue  
18 with design professionals, contractors, IORs, hospital leadership, and public  
19 agencies. Staff has presented at numerous conferences. He highlighted sessions  
20 including "Powering the Future" (microgrids), Arash Altoontash's HCAI update,  
21 and Ali Sumer's panel on technology for nonstructural hospital seismic upgrades.  
22 He noted that retrofit solutions are often easier, less expensive, and more  
23 streamlined than replacement. Nonlinear analysis is not new and is a good  
24 solution for evaluating existing buildings. He referenced the small rural hospital  
25 program approach for tailored retrofits.
- 26 • CDPH coordination was critical because building construction precedes CDPH  
27 operational permitting. OSHPD wanted CDPH to identify physical issues during  
28 construction, not after. Richard Tannahill was identified to discuss this further.
- 29 • Richard Tannahill explained OSHPD meets with CDPH's program flex unit every  
30 two weeks, submitting AMCs with program flex on the facility's behalf for advance  
31 approval. OSHPD has access to CDPH's program flex database. Program flexes  
32 are now only approved for three years and must be renewed. He cited a recent  
33 example where a CDPH surveyor questioned a facility detail, OSHPD provided  
34 justification, and CDPH accepted it.
- 35 • Arash Altoontash added OSHPD does not address unknown issues raised by  
36 downstream agencies based on personal preferences or specific surveyors. The  
37 focus is on enforcing code minimum, with downstream CDPH involvement  
38 handled through Richard Tannahill's frequent meetings.

- 1 • Chris Tokas emphasized this collaboration combines OSHPD's technical strength  
2 with CDPH's operational insight to open physical environments for the people  
3 quickly.
- 4 • Chris Tokas shifted to plan review and performance. Total construction valuation  
5 was \$24.64 billion (\$13.2 billion in construction, \$8.5 billion in plan review). The  
6 dashboard tells OSHPD where workload is located. Of the \$8.5 billion in plan  
7 review, \$6 billion was in OSHPD's office. He explained that during collaborative  
8 reviews, OSHPD holds the project to control the schedule and enforce agreed  
9 delivery dates. Some IRP contracts were being discontinued by Chris Tokas  
10 because the design teams were not delivering; the average comment response  
11 time was 110 days, with maximum 250 days for one comment.
- 12 • He explained the year-end project surge, what he called the "project dump",  
13 caused by parties believing they had to submit before the January 1st code  
14 adoption, plus the March 1st seismic compliance reports. Despite the workload  
15 spike, staff responded.
- 16 • He explained the anticipated plan approval date chart shows two lines: gray for  
17 OSHPD performance (high) and combined performance dragged down by design  
18 professional non-response.
- 19 • Richard Tannahill noted the chart was through April and would balance out by  
20 month-end. He clarified the date is anticipated, not promised, and OSHPD  
21 receives calls when one day late.
- 22 • Chris Tokas confirmed performance is contingent on design professionals'  
23 performance. Integrated managed projects were not in the chart because they  
24 have separately agreed timelines.
- 25 • Richard Tannahill noted this was the higher cost in plan review because  
26 integrated projects are typically much larger.
- 27 • Richard Tannahill noted performance was leveling out.
- 28 • Chris Tokas presented project review statistics: about 56-60% of reviews  
29 completed within 10 days, average 17 days for return to design professionals. He  
30 compared this to last year favorably.
- 31 • Arash Altoontash described several major recently completed projects:
  - 32 ○ City of Hope, Orange County – extension specialty acute care hospital,  
33 completed September 2025, seeing patients December 1.
  - 34 ○ Irvine Medical Center – first all-electric hospital, major campus with  
35 parking at the center, completed end of last year, near licensing.
  - 36 ○ Riverside – completed with certificate of occupancy, undergoing licensing.

- A UHS project – a couple-story old hospital turned into a tower, certificate of occupancy in late January.
  - Scripps Encinitas – one of the most complex projects, mirror-image two-building project at the center of an occupied campus, first half built with certificate of occupancy.
  - Hoag Irvine – major undertaking with five new buildings, three under HCAI jurisdiction; east campus pavilion with eight new ORs and ICUs given occupancy and undergoing licensing.
- He noted OSHPD works with CDPH to shave off time that projects sit waiting for licensing. Even one week of saved time multiplied by beds represents significant care delivered. CDPH is allowed to start licensing processes earlier when buildings appear hospital-ready, beginning as a pilot at City of Hope, continuing at UCI, and now Hoag Irvine.
  - Chris Tokas stated these completed projects were tangible proof of what collaboration, clear standards, and strong oversight can achieve. **[Break]**

#### **Board and Public Comments**

- Teresa Endres commented she had been working with OSHPD for over 30 years and the difference in OSHPD's approach to plan review was noticeable to the industry. She thanked Chris Tokas, Arash Altoontash, and Richard Tannahill.

#### **Discussion and Input**

- Chris Tokas shifted to technical issues. He recalled the IBC 2000 code wars in California, the 2007 CBC adoption, and the OSP program creation for seismic certification of equipment. The labeling issue arose in 2010-2013 because equipment was sent to job sites with paper labels that disappeared over time. Chapter 17 specifically requires permanent labels. In 2026, equipment was still being sent without proper labels, including labels in sandwich bags hanging on equipment. OSHPD issued a memo specific to manufacturers explaining IBC/ASCE 7 national requirements for label specifications, affixing on the production line, and proper installation. He noted IORs would refuse to unload unlabeled equipment.
- Richard Tannahill provided a code change update, reporting that the intervening code cycle was in public comment review. OSHPD would meet with the Building Standards Commission in coming weeks regarding AB 130 issues. Some content was pulled due to AB 130.
- Chris Tokas described a code change in the IPC arena that moved skilled nursing facilities from Risk Category II to Risk Category IV (hospital level) and behavioral health/psych facilities from Risk Category III to Risk Category IV under the name of functional recovery, with claimed cost increase of 0 – 2%.

OSHPD took exception, keeping skilled nursing facilities in Risk Category II and behavior health facilities in Risk Category III in the 2025 CBC. He estimated actual costs at 25-30%+ due to higher forces, different QA/QC requirements, architectural/mechanical implications, and equipment seismic qualification. OSHPD would pursue repealing this requirement at national hearings.

- He addressed AB 130, which froze building codes after the Southern California fires last June. Although intended for residential code provisions, it froze everything across the board, preventing modernization of healthcare-beneficial code changes.
- Richard Tannahill noted AB 130 prevented even cost-reducing benefits from being added.
- Chris Tokas briefly described a revision to CAN-110 clarifying that a plan must be accepted for review (not just submitted) to lock in the code cycle. He explained 400+ projects were dumped in December, some not reviewable, in attempts to lock the code.
- A recent CAN clarified the difference between power-assisted doors (which still close on fire alarm and require physical opening before motor assists) and power-operated doors (opened by button or panel). Based on State Fire Marshal interpretation, power-assisted doors do not need to drop on fire alarm conditions.
- Richard Tannahill noted this guide replaces PIN 74 (the emergency document). AB 2511 was on hold but OSHPD had already put the requirements in the code. New facilities must meet safe temperature requirements; existing facilities do not need to be brought up to date.
- Chris Tokas raised Class 1, 2, and 3 imaging rooms.
  - Richard Tannahill noted an upcoming Monday meeting with CDPH's lead medical consultant to discuss Class 2 and Class 3 imaging room differences. Confusion centered on the definition of anesthesia (general anesthesia is the highest level, not "general"/standard). Many Class 2 rooms were reverting to Class 3 based on anesthesia type. OSHPD would clarify by anesthesia level (moderate, light sedation). Different district offices had been interpreting differently.
- Richard Tannahill announced Mia Marvelli had retired and Eric Jacobson had taken over as supervisor of the Building Standards Unit. Mia Marvelli might return as a retired annuitant. He noted BSU handles outreach and works with the Education and Outreach Committee, often handling internal CAN/PIN webinars while collaborating on broader project topics like prefabrication.

- 1 • Chris Tokas shifted to the Seismic Compliance Program update. He referenced a  
2 new website timeline allowing users to click through milestones for specific  
3 guidance. The compliance timeframes included: complete nonstructural  
4 evaluations (January 1, 2024), seismic compliance plans (January 1, 2026),  
5 construction document submission (March 1, 2026), building permit/general  
6 acute care service removal milestone (March 2028), and final compliance  
7 (January 1, 2030).
- 8 • He explained compliance plans dated to 1994/1997 in the CBC and were  
9 intended to be updated as plans changed, but updates were not happening. The  
10 2024 statute required compliance plan submission by January 1, 2026.
- 11 • Arash Altoontash explained the 2025 CBC required compliance plan updates,  
12 supported by webinars from Ali Sumer's group and updated application interface  
13 and website. Of 343 hospital facilities that submitted compliance plans, 88%  
14 submitted while 47 facilities did not. About 4% (16 facilities) were fully compliant.  
15 About 109 facilities were reviewed more than once. Letters were sent to non-  
16 submitting facilities.
- 17 • He demonstrated the new facility detail webpage interface allowing users to view  
18 compliance plan status, building methods of compliance, and milestones. For  
19 SPC-2 buildings, 56% planned to retrofit, 28% planned to remove services, with  
20 some unreported.
- 21 • Arash Altoontash addressed NPC: 70% planned to continue retrofitting (bracing  
22 components), 30% planned removal from general acute care services. He  
23 explained AB 869 permits distressed hospital loan recipients, small hospitals,  
24 rural hospitals, and critical access hospitals to gain three additional years (with  
25 potential additional two years) provided justification of need, milestones, and  
26 acceptance of penalties for missed milestones.
- 27 • Arash Altoontash confirmed the application deadline of January 1, 2026 had  
28 passed with 42 applicants. Applications were under review with milestone  
29 evaluations. Pushing all milestones to 2032 would not be approved.
- 30 • He noted 80% of buildings were conforming for seismic compliance, significant  
31 progress. The remaining 20% would be addressed in the next four years through  
32 retrofit or service removal.
- 33 • For NPC, 44% were NPC-2 requiring upgrade. He noted bracing existing utility is  
34 challenging. NPC pre-approvals existed and OSHPD permitted bracing design to  
35 1998 CBC standards (rather than 2025 CBC) for force demands, with current  
36 standards for anchor capacities. An A13 guide helped facilities reach NPC-3 or  
37 NPC-4.

- 1 • For AB 1882 signage, of 2,656 hospital buildings requiring posting, 55% were  
2 compliant, 10% pending verification, 10% non-compliant, with the remainder  
3 exempt or not requiring signage due to no lobby/waiting areas.
- 4 • Chris Tokas added some facilities took down signs.
- 5 • Arash Altoontash confirmed the signage status. He moved to annual services  
6 reporting under SB 90 and SB 869. About 25% of facilities did not submit this  
7 year despite extensive outreach via webinars and online training.
- 8 • Chris Tokas described the Small and Rural Hospitals Grant Program as close to  
9 OSHPD's heart, helping small and rural hospitals with limited resources break  
10 complex seismic upgrades into manageable steps. He called these hospitals  
11 "houses" with people suffering daily. OSHPD plays consultant, advisor, and entity  
12 role.
- 13 • Arash Altoontash explained eligibility (small hospital, rural hospital, critical access  
14 hospital) requires demonstrating that compliance would result in loss of services  
15 to the community. Funding is 80% reimbursement of incurred costs plus technical  
16 assistance. Funds are statutorily restricted to seismic compliance only, not new  
17 buildings.
- 18 • He listed funding status: \$11.3 million in awarded grants, \$9 million in potential  
19 awards in progress, and approximately \$50 million still available. The fund  
20 receives approximately \$2.6 million per year. Hospitals could extend to 2033 or  
21 2035 depending on circumstances.
- 22 • Chris Tokas addressed IOR workforce shrinkage. In the first trimester, 40 new  
23 IORs were certified and 89 were recertified. The CAP certification program for  
24 design professionals continued, with 25 certifications issued in the last cycle.
- 25 • Arash Altoontash described CAP as optional and voluntary. He proposed  
26 charging a nominal fee to recover administrative costs because some applicants  
27 do not show up for exams when free, wasting OSHPD bandwidth.
- 28 • Chris Tokas shifted to future priorities. New workforce additions included: Bryan  
29 Tran (new supervisor for South region), Andy Lin and Oscar Cheung (new district  
30 structural engineers in Southern California), Hannah Hillegas and Tsutomu  
31 Nifuku (new structural engineers in Northern California), two new UC OSHPD-  
32 designated campus fire marshals, and fire and life safety review contracts out.  
33 Future plans included certifying senior architects for fire and life safety reviews.
- 34 • Richard Tannahill announced an upcoming senior architect field role as a dual  
35 position performing both compliance officer and fire and life safety officer  
36 functions, leveraging the six already-licensed architects in the field. The role  
37 would not eliminate the FLSO position but supplement it.

- Chris Tokas concluded by stating the road ahead was exciting: improving systems, strengthening workforce, modernizing technology, and depending on partnerships. The single mission was delivering safe, resilient infrastructure for the people of California.

## **Board and Public Comments**

- Martin Hudson asked whether outreach beyond letters was planned for non-compliance after the deadline.
  - Chris Tokas replied compliance/non-compliance depends on which part of the law. For some non-compliance, OSHPD must send notice to the hospital and elevate to CDPH, where the law clearly states CDPH shall not renew or shall revoke the license. For non-submission of compliance plans, OSHPD sends a letter explaining consequences.
- Michael Foulkes asked about a hypothetical existing non-compliant hospital tower being replaced by a new tower not completed by 2030.
  - Chris Tokas suggested starting construction today as a stronger position. He explained seismic compliance was a catalyst for change. In 1994, average hospital age was 75 years; today it is 95+ years. Back in 1971, the legislature decided not to apply Seismic Safety Act requirements to existing buildings because the industry would naturally replace them through capital improvements due to modernization needs. After earthquakes in 1976, 1989, the 1991 ATC study, and the 1994 Northridge earthquake, the requirements expanded. He emphasized understanding assessing not just seismic risk but mechanical, electrical, plumbing condition, maintenance costs, energy costs, and labor force impacts

## **Informational and Action Items**

- Chris Tokas, Arash Altoontash, and Richard Tannahill provided an extensive OSHPD update covering:
  - Human-centered design philosophy and operational mindset shift from authority to collaboration.
  - eTIO modernization platform now in pilot testing, with Richard Tannahill seeking small project volunteers.
  - eSP transition to fully cloud-based completed in November/December 2025.
  - Industry outreach including PDC sessions on microgrids, HCAI updates, and nonstructural seismic upgrades.

- 1           ○ CDPH coordination via biweekly meetings with the program flex unit and  
2           ongoing engagement with Nathaniel Gilmore. Program flexes now  
3           approved for only three years.
- 4           ○ Plan review workload of \$24.64 billion total (\$13.2B construction, \$8.5B  
5           plan review with \$6B in OSHPD office).
- 6           ○ Discontinuation of certain IRP contracts due to design team non-  
7           performance (110-day average comment response, 250-day maximum).
- 8           ○ 56-60% of reviews completed within 10 days; 17-day average return time.
- 9           ○ Major project completions: City of Hope Orange County, Irvine Medical  
10          Center, Riverside, a UHS tower, Scripps Encinitas (first half), Hoag Irvine  
11          east campus pavilion.
- 12          ○ Equipment seismic labeling memo to manufacturers requiring permanent  
13          labels per chapter 17 / ASCE 7.
- 14          ○ OSHPD opposition to Risk Category reclassification of skilled nursing and  
15          behavioral health facilities under "functional recovery", pursuing repeal at  
16          national hearings.
- 17          ○ AB 130 freeze of building code changes blocking healthcare beneficial  
18          modernization including cost-reducing changes.
- 19          ○ CAN-1-1-0 revision clarifying plans must be accepted for review to lock in  
20          code cycle.
- 21          ○ New CAN distinguishing power-assisted vs. power-operated doors per  
22          State Fire Marshal interpretation.
- 23          ○ Replacement of PIN 74 with safe temperature guide for skilled nursing  
24          facilities under AB 2511 (on hold but already codified).
- 25          ○ Upcoming Monday CDPH meeting on Class 2/Class 3 imaging room  
26          anesthesia definitions.
- 27          ○ Mia Marvelli retirement and Eric Jacobson promotion to Building  
28          Standards Unit supervisor.
- 29          ○ Compliance plan submissions: 343 facilities (88%) submitted; 47 did not;  
30          4% (16 facilities) fully compliant; 56% of SPC-2 buildings planning retrofit,  
31          28% planning service removal.
- 32          ○ AB 869 extension applications: 42 applicants under review.
- 33          ○ AB 1882 signage: 55% compliant of 2,656 buildings.
- 34          ○ 25% of facilities did not submit annual services reports.

- Small and Rural Hospitals Program: \$11.3M awarded, \$9M potential awards in progress, \$50M still available, \$2.6M annual fund infusion.
- IOR workforce: 40 new certifications and 89 recertifications in first trimester; 25 CAP certifications issued.
- Workforce additions: Bryan Tran (South region supervisor), Andy Lin and Oscar Cheung (structural engineers in Southern California), Hannah Hillegas and Tsutomu Nifuku (structural engineers in Northern California), two new delegated campus fire marshals.
- New Senior Architect Field role being created as dual compliance/fire and life safety officer (supplementing not replacing FLSO).

**13. Comments from the Public/Board Members on issues not on this agenda 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.**

**Facilitator:** Jim Malley (or designee)

- Glenn Gall identified himself as a member of the public and noted he used to work with OSHPD. He expressed concern about the statute that disallowed major rulemakings during interim cycles. He acknowledged improved OSHPD participation with FGI lately as a real positive. He asked whether consideration could be given to picking up guidelines in total during a major cycle adoption so healthcare standards would not fall eight years behind rather than four. He acknowledged this was for future discussion but that it was really hurtful to have healthcare regulations and standards put so far behind with a block of interim standards adoption.
- Chris Tokas greeted Glenn Gall and stated nobody in the room would disagree. He emphasized modernization is very important, especially in the healthcare environment where things change constantly and new technologies arrive that are more advantageous in delivering better, more efficient, and cheaper healthcare. However, the law tied OSHPD's hands.

**Informational and Action Items**

- Glenn Gall raised a concern for future board consideration regarding the statute disallowing major rulemakings during interim code cycles, suggesting OSHPD consider adopting guidelines in total during major cycle adoptions to prevent healthcare regulations from falling further behind.
- Chris Tokas acknowledged the concern and confirmed agreement, noting current California law constrains OSHPD's ability to act. The matter was raised for potential long-term consideration.

1   **14. Adjournment**

2   Jim Malley thanked everyone for their participation in the day's meeting and extended  
3   thanks to staff for all of the updates provided. He stated he looked forward to seeing  
4   attendees in August in Sacramento. He reminded the board one more time that anyone  
5   interested in being chair or vice chair of the board should let leadership know to get on  
6   the list and be interviewed before the August meeting.

7   He adjourned the meeting at 3:41 p.m.

This page left intentionally blank.

# Instrumentation Committee

---

Draft Meeting Report/Minutes

March 24, 2026

This page left intentionally blank.



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



## Hospital Building Safety Board Instrumentation Committee

**March 24, 2026**  
**10:00 a.m. – 4:00 p.m.**

### **Locations:**

2020 West El Camino Ave, Conference Room 930, Sacramento, CA 95833  
355 South Grand Avenue, Conference Room 1901, Los Angeles, CA 90071

### **Committee Members Present**

Martin Hudson, Committee Chair  
Courtney Johnson  
Teresa Endres  
Jim Malley  
Jennifer Thornburg

### **HCAI Staff Present**

Arash Altoontash  
Richard Tannahill  
Hussain Bhatia  
Roy Lobo

### **Consulting Members Present**

Hamid Haddadi  
Tony Shakal

### **HBSB Staff Present**

Veronica Yuke, Executive Director  
Evet Torres  
Marcus Palmer

- 1 **1. Call to Order and Welcome**
- 2 **Facilitator:** Martin B. Hudson, PhD, PE, GE, Principal Geotechnical Engineer, Hudson
- 3 Geotechnics, Inc.; Committee Chair
- 4 Courtney Johnson called the HBSB Instrumentation Committee meeting to order on
- 5 March 24, 2026, at 10:00 a.m.
- 6
- 7 **2. Roll Call and Meeting Advisories/Expectations**
- 8 **Facilitator:** Veronica Yuke, HCAI; HBSB Executive Director

Veronica Yuke conducted roll call and a quorum was established. She reviewed meeting expectations and explained any voting would be conducted through roll call..

### **3. Implementing Structural Health Monitoring Programs for Post-Earthquake Response**

**Facilitators:** James O. Malley, Senior Principal, Degenkolb; and Evan Reis, SE, Executive Vice President and Director of Science and Analytics, Safehub, Inc.

#### **Discussion and Input**

Evan Reis presented on structural health monitoring technology for post-earthquake response. He provided professional background information and explained that Safehub's system uses compact MEMS-based accelerometer sensors designed to rapidly assess shaking and estimate building damage after an earthquake.

He described the motivation for the technology, emphasizing the need for rapid post-earthquake decision-making in critical facilities such as hospitals. He cited examples of hospital shutdowns and evacuations following earthquakes where uncertainty regarding structural safety delayed continued operations.

He explained that traditional force-balance accelerometers are highly accurate but expensive, difficult to install, and disruptive in occupied hospital facilities. He contrasted those systems with Safehub's compact solid-state MEMS sensors, which can be mounted quickly on walls, include cellular communication capability, battery backup, and onboard data storage, and are designed to measure building-relevant strong motion in the period range of interest.

Evan Reis described the operational workflow:

- the sensor detects shaking,
- confirms association with a known earthquake event,
- transmits data via cellular network,
- processes the data through a secure cloud platform,
- and generates a rapid building status indicator using a green, yellow, or red damage alert system.

He emphasized that the system is intended for triage and rapid response, not as a replacement for a licensed engineer's structural evaluation.

He further explained that the system integrates building-specific vulnerability functions based on structural characteristics such as age, construction type, height, code basis, and engineering analysis inputs. These vulnerability functions are used to estimate likely building damage based on measured response spectra.

1 Evan Reis also discussed the use of the system for equipment monitoring, noting that  
2 critical hospital equipment such as chillers could be monitored for exceedance of  
3 certified acceleration thresholds.

4 He reviewed testing and validation efforts performed at UC San Diego and UC  
5 Berkeley, noting favorable comparison results between MEMS sensors and more  
6 traditional high-fidelity instrumentation within the frequency ranges relevant to building  
7 response.

8 He additionally discussed potential applications related to parametric earthquake  
9 insurance, where rapid measured shaking intensity can trigger expedited insurance  
10 payouts without lengthy claims adjustment processes.

11 A substantial committee discussion followed:

- 12 • James Malley commented that his office receives earthquake alerts through the  
13 Safehub system and described the notification process as straightforward and  
14 user-friendly.
- 15 • Hamid Haddadi asked whether the notification was based on the earthquake  
16 event itself or actual shaking at the building.
  - 17 ○ Evan Reis clarified that alerts are issued only when both an earthquake  
18 occurs and the instrumented building experiences measurable shaking.
- 19 • Hussain Bhatia asked multiple technical questions regarding:
  - 20 ○ data storage during cellular outages,
  - 21 ○ cloud-based data processing,
  - 22 ○ potential data sharing with the California Geological Survey,
  - 23 ○ sampling frequency,
  - 24 ○ use of filters,
  - 25 ○ synchronization limitations,
  - 26 ○ integration with building management systems,
  - 27 ○ and sensor timing protocols.
    - 28 ▪ Evan Reis responded that the sensors store approximately one  
29 month of data locally and continue attempting transmission until  
30 connectivity is restored. He also stated that data is securely stored  
31 on encrypted cloud servers through Amazon AWS.
- 32 • Tony Shakal raised questions regarding cellular network reliability after major  
33 earthquakes and compared it to legacy landline resilience standards.

- Evan Reis explained that the system uses multi-band cellular redundancy across multiple carriers and that rapid transmission within the first few minutes after an earthquake typically occurs before networks become congested.

- Hamid Haddadi and Martin Hudson raised technical discussion points regarding:

- vulnerability functions,
- response spectra,
- drift estimation,
- synchronization requirements,
- use of spectral acceleration versus other measures,
- and potential future use of period shift or ductility-based monitoring.

- Martin Hudson specifically discussed whether future processing advancements could allow better use of differences in acceleration over the height of a building to estimate drift, ductility, or period changes as indicators of structural damage.

- Evan Reis stated that these remain areas of ongoing scientific interest and future research but are not currently part of the operational damage estimation workflow.

- Roy Lobo commented that the system appeared especially useful for nonstructural equipment applications and asked about comparisons between wall-mounted sensors and floor-mounted systems.

- Evan Reis stated that wall vibration effects are filtered and that comparative testing had shown acceptable performance.

- James Malley also asked whether longer-period buildings might allow approximate drift estimation despite synchronization limitations.

- Hamid Haddadi emphasized the sensitivity of drift estimation to filtering and noise accumulation during double integration from acceleration to displacement.

- Tony Shakal commented on potential future applications of similar sensor technology beyond buildings.

- At the conclusion of the discussion, Martin Hudson noted that the technical discussion was highly valuable because it directly supported the committee's future work related to hospital education and instrumentation technology.

## **Committee and Public Comments**

- James Malley commented on receiving Safehub alerts and asked whether longer-period buildings might still allow approximate drift estimation.

- Hamid Haddadi asked questions regarding earthquake notification logic, communication redundancy, use of spectral acceleration thresholds, and drift calculation sensitivity.
- Hussain Bhatia asked questions regarding local data storage, cloud processing, possible data sharing with CGS, synchronization, sample rates, filters, and building management system integration.
- Tony Shakal commented on cellular versus landline communication reliability after earthquakes and raised future technology application questions.
- Martin Hudson asked questions regarding vulnerability functions, use of spectral acceleration, future drift and ductility estimation methods, and possible period-shift analysis.
- Roy Lobo asked questions regarding comparison with high-fidelity sensors, wall-mounted versus floor-mounted sensor response, and possible applications for nonstructural equipment.
- There were no comments from members of the public for this agenda item.

#### **Informational and Action Items**

- The committee received a detailed presentation from Evan Reis regarding structural health monitoring technology for post-earthquake response.
- The discussion informed the committee's continuing work on instrumentation education, white paper development, and future discussions with hospital stakeholders regarding instrumentation technology.

#### **4. California Strong Motion Instrumentation Program (CSMIP) update on Notification for Structural Response Monitoring**

**Facilitator:** Hamid Haddadi, PhD GP, Program Manager, CSMIP, California Geological Survey

#### **Discussion and Input**

Hamid Haddadi began by describing the intended end product of the notification system. He explained that for instrumented hospital buildings with sensors installed at selected floors, the system is designed to extract key response parameters from recorded earthquake waveforms.

He stated that the first primary parameter is the maximum peak floor acceleration, derived from the acceleration records at instrumented floors. He explained that the system would identify the maximum peak floor acceleration and include that value in the notification.

1 He further explained that the waveform data is double integrated to calculate  
2 displacement. Because the sensors are synchronized with highly accurate timing, the  
3 system can then calculate IDR between instrumented floor pairs and identify the  
4 maximum IDR.

5 He presented the proposed notification template, which includes:

- 6       ▪ update time and record start time,
- 7       ▪ peak acceleration values at the basement level in three directions,
- 8       ▪ maximum interstory drift ratio,
- 9       ▪ identification of the floor pair where the maximum IDR occurred,
- 10      ▪ and maximum peak floor acceleration values in three directions.

11  
12 Hamid Haddadi explained that the pilot effort currently includes 10 instrumented  
13 hospitals, selected in coordination with HCAI. He stated that all 10 hospitals currently  
14 use a single central recording system and the same recorder type, which allows the pilot  
15 program to start with a more standardized framework before future expansion to all  
16 instrumented hospitals.

- 17      • He noted that the long-term goal is to scale the system to all instrumented  
18       hospitals, including facilities with multiple recording systems and different  
19       recorder types.
- 20      • He then discussed the selected case study hospital, a three-story hospital in  
21       Santa Clara, which has sensors installed at every floor. He stated that the  
22       building had recorded nine earthquake events and was being used as the initial  
23       test case.

24 Hamid Haddadi then presented technical findings related to drift ratio sensitivity.

25 He explained that at very long periods, double integration from acceleration to  
26 displacement introduces substantial noise, even with synchronized high-resolution  
27 instruments. He stated that these long-period responses are not reliable for drift  
28 calculations and must be filtered carefully.

29 He explained that once the data is filtered to shorter, more stable periods,  
30 approximately three to four seconds and below, the drift calculations become  
31 significantly more reliable.

- 32      • James Malley asked whether this sensitivity issue related to long-period input  
33       motions or long-period waveform content.
  - 34           ○ Hamid Haddadi clarified that he was referring to long-period waveform  
35           content that must be filtered out during processing.
- 36      • Hussain Bhatia asked whether baseline correction was being performed during  
37       double integration.
  - 38           ○ Hamid Haddadi confirmed that baseline correction is performed.

1 Hamid Haddadi then presented drift sensitivity analyses for all 10 hospitals, including  
2 taller buildings, and explained that with appropriate filtering and synchronized  
3 instrumentation, reliable drift ratio calculations can be achieved.

4 He also presented additional work involving cubic spline interpolation methods to  
5 reconstruct building response at non-instrumented floors.

6 He explained that this method can be used to estimate building response and drift ratios  
7 at floors without direct instrumentation and referenced a recent study involving a 52-  
8 story building in the Los Angeles area.

- 9 • Roy Lobo asked whether the gray shaded regions in the presented plots  
10 represented uncertainty.

- 11 ○ Hamid Haddadi confirmed that the gray region represented plus or minus  
12 two standard deviations of the model.

- 13 • Martin Hudson asked whether spectral acceleration values, such as 0.3-second  
14 and 1-second response values, should be considered as part of the notification  
15 template.

- 16 ○ Hamid Haddadi stated that these values could absolutely be added if  
17 deemed useful.

- 18 • Martin Hudson also asked whether low-cost MEMS sensors might be used to  
19 supplement high-resolution instrumentation at non-instrumented floors.

- 20 ○ Hamid Haddadi stated that MEMS sensors could be useful for peak floor  
21 acceleration or spectral acceleration measurements but would be  
22 significantly more challenging to use for accurate drift ratio calculations.

- 23 • Tony Shakal asked whether some hospitals already include direct displacement  
24 instrumentation.

- 25 ○ Hamid Haddadi confirmed that some hospitals include relative  
26 displacement sensors (string potentiometers) and noted that this  
27 information could also be incorporated into the notification template.

- 28 • Hussain Bhatia commented that comparison between calculated drift values and  
29 string potentiometer data would be highly valuable.

- 30 • During public comment, Evan Reis stated that he appreciated the presentation  
31 and offered collaboration support, including temporary installation of sensors for  
32 research purposes if helpful.

- 33 ○ Hamid Haddadi acknowledged the offer.

## 34 **Committee and Public Comments**

- James Malley asked questions regarding the effect of long-period building response on drift calculations and whether drift could be reasonably estimated in longer-period structures.
- Hussain Bhatia asked questions regarding use of free-field instrumentation versus basement instrumentation, calculation of resultant drift ratios, baseline correction during double integration, and interpretation of drift sensitivity results.
- Martin Hudson asked questions regarding inclusion of spectral acceleration values in the notification template and the potential use of MEMS sensors to supplement instrumentation at non-instrumented floors.
- Tony Shakal commented on the possible use of direct displacement instrumentation already installed in some hospital buildings and its potential inclusion in the notification framework.
- Roy Lobo asked questions regarding the uncertainty shown in the response plots and interpretation of the model standard deviation.
- Evan Reis provided a public comment offering support and collaboration for future research and sensor deployment efforts.

#### **Informational and Action Items**

- The committee received the CSMIP update regarding development of a structural response notification system for instrumented hospitals.
- The pilot notification framework will continue to be developed using the initial 10-hospital dataset, with future expansion planned for all instrumented hospitals.
- The committee discussed possible future additions to the notification template, including spectral acceleration values and relative displacement sensor data.

#### **5. Review of goals for Ad hoc Educational Opportunities to Advance Structural Health Monitoring by Hospitals Subcommittee meeting on January 29, 2026**

**Facilitator:** Courtney Johnson, PG, CEG, Principal Geologist, Slate Geotechnical Consultants; Committee Vice-Chair

#### **Discussion and Input**

Courtney Johnson explained that many members of the Instrumentation Committee also serve on that subcommittee and that, although the subcommittee is formally under the Education and Outreach Committee, the technical nature of its work made it appropriate to continue reporting to the Instrumentation Committee on technical matters.

Courtney Johnson reported that the subcommittee held its first meeting at the end of January 2026.

1 She stated that during that meeting, the subcommittee reaffirmed its overall goal, which  
2 is to develop educational opportunities to advance utilization of structural health  
3 monitoring by hospitals using seismic instrumentation.

4 She then reviewed the subcommittee's prioritized target deliverables:

- 5 • a two-page summary of the seismic instrumentation of healthcare facilities white  
6 paper intended as an outreach document for a broader audience,
- 7 • a how-to implementation guide for hospital owners and administrators explaining  
8 steps to begin instrumenting their facilities,
- 9 • and an outline for a webinar series to support education and outreach efforts.

10 Courtney Johnson explained that these deliverables were intended to make the  
11 information more accessible and less intimidating than a longer technical white paper.

12 She further reported that the subcommittee identified a need for additional internal  
13 education before making modifications to the white paper or issuing addenda.

14 She stated that this additional education includes:

- 15 • information on available systems and current technologies,
- 16 • anticipated technology trends,
- 17 • and greater understanding of owner and administrator operational needs and  
18 decision-making factors following an earthquake.

19 She emphasized that understanding how hospital owners use structural health  
20 monitoring information for occupancy, evacuation, prioritization of assessments, and  
21 operational continuity is critical to developing effective educational materials.

22 She noted that the earlier presentation by Evan Reis directly supported this effort and  
23 that the subcommittee would incorporate that information into its future work.

24 Courtney Johnson stated that the subcommittee's next meeting was scheduled for  
25 Thursday of that same week and that the subcommittee intended to continue working in  
26 tandem with the Instrumentation Committee.

- 27 • Martin Hudson stated that he had no additional comments and described the  
28 day's meeting as invaluable in helping advance the subcommittee's next steps.
  - 29 ○ He stated that he supported continuing this tandem approach to move  
30 forward the educational opportunities.
- 31 • Teresa Endres asked whether the subcommittee had a projected timeline for  
32 completion of the listed deliverables.
  - 33 ○ Courtney Johnson responded that the target was to complete the three  
34 primary deliverables within the current calendar year, with earlier  
35 completion preferred if possible.

- She explained that timing would depend on how quickly the subcommittee could gather the additional internal education information needed to support development.

- Teresa Endres stated that she would follow up regarding inclusion of a similar update on the Education and Outreach Committee agenda.

- Hussain Bhatia commented that the summary document should include a paragraph clearly explaining the distinction between earthquake early warning systems and building seismic instrumentation, stating that this distinction is essential.

- Courtney Johnson agreed and acknowledged that as an important addition.

## **Committee and Public Comments**

- Martin Hudson commented that the day's meeting and the tandem coordination with the subcommittee were invaluable in helping advance the next steps for educational opportunities.
- Teresa Endres asked about the projected timeline for completion of the subcommittee's target deliverables and discussed possible coordination with the Education and Outreach Committee agenda.
- Hussain Bhatia recommended that the educational materials include a concise explanation distinguishing earthquake early warning systems from building seismic instrumentation.
- There were no comments from members of the public for this agenda item.

## **Informational and Action Items**

- The committee received an update on the goals and deliverables of the Ad Hoc Educational Opportunities to Advance Structural Health Monitoring by Hospitals Subcommittee.
- The subcommittee will continue development of:
  - the two-page white paper summary,
  - the implementation guide,
  - and the webinar series outline,with a target completion within calendar year 2026.
- The subcommittee will also continue gathering technical and owner-focused educational input to support these deliverables.

1 **6. Comments from the Public/Committee Members on Issues not on this Agenda**  
2 **The Committee will receive comments from the Public/Committee Members.**

3 **Facilitator:** Martin Hudson (or designee)

4 Martin Hudson opened the floor for comments from committee members and members  
5 of the public regarding instrumentation-related issues not addressed in the prior agenda  
6 items.

7 Hearing no public comments, he closed Agenda Item #6.

8  
9 **7. Adjournment**

10 **Facilitator:** Martin Hudson (or designee)

11 Martin Hudson stated that the meeting had been extremely productive and that he had  
12 personally learned a great deal from the presentations and discussions.

13 He thanked the presenters for their presentations and HCAI staff for coordinating the  
14 meeting and specifically acknowledged Veronica Yuke for her efforts.

15 He then adjourned the meeting pending announcement of the next meeting date at  
16 12:03 p.m.

This page left intentionally blank.

# Education and Outreach Committee

---

Draft Meeting Reports/Minutes

April 29, 2026



This page left intentionally blank.



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



## Hospital Building Safety Board Education and Outreach Committee

**April 29, 2026**  
**10:00 a.m. – 4:00 p.m.**

### **Locations**

2020 West El Camino Ave, Conference Room 930, Sacramento, CA 95833  
355 South Grand Avenue, Conference Room 2000, Los Angeles, CA 90071

### **Committee Members Present**

Teresa Endres, Chair  
Cody Bartley, Vice-Chair  
Janice Cheung  
Michael Davis  
Gary Dunger  
Courtney Johnson  
Kelly Martinez  
Noella Tabladillo

### **HCAI Staff Present**

Arash Altoontash  
Richard Tannahill

### **HBSB Staff**

Veronica Yuke, Executive Director  
Marcus Palmer  
Evet Torres

### **Consulting Members**

Bill Zellmer

- 1 **1. Call to Order and Welcome**
- 2 **Facilitator:** Teresa Endres, AIA, ACHA, EDAC, AAH, Principal, HOK; Committee Chair
- 3 (or designee)
- 4 Teresa Endres opened and welcomed attendees to the HBSB Education and Outreach
- 5 Committee meeting on April 29<sup>th</sup> at 10:00 a.m.
- 6
- 7 **2. Roll Call and Meeting Advisories/Expectations**
- 8 **Facilitator:** Veronica Yuke, HCAI; HBSB Executive Director (or designee)

Veronica Yuke established that a quorum was present. She communicated the rules of engagement for the meeting, including comment submission procedures, speaker identification requirements, and the voting process to be conducted via roll call by the executive director.

### **3. Review and prioritize the committee's 2026 goals:**

**Facilitator:** Teresa Endres (or designee)

#### **Discussion and Input**

Teresa Endres opened the discussion by reading last year's goals to the committee. She listed them as: support the development of webinars; develop a regular curriculum and predictable calendar of webinars; revisions to the Guide for working on OSHPD Projects, Tips from the Experts; the Emergency Design Guide; the Collaborative Inspection Approach to Hospital Construction seminar (which she noted was completed); work with the Instrumentation Committee regarding a webinar or seminar on the Instrumentation White Paper; Advisory Guides; and eTIO awareness going from paper to electronic. Teresa Endres opened the discussion to the committee to prioritize them.

- Michael Davis clarified that he had spoken with Chris Tokas recently, and Chris Tokas had mentioned that once budget information was known, a decision would be made on the next step for the Collaborative Inspection Approach to Hospital Construction (CIA), potentially as a late 2026 or early 2027 in-person seminar. Teresa Endres asked Richard Tannahill if it would be combined with another seminar or just on the CIA, and he responded it would be a one-day seminar just on CIA. Veronica Yuke stated that the seminars were being tabled until 2027 and would be on the 2027 goals list.
- Cody Bartley asked to add continuing to advance pre-approvals and prefabrication related to healthcare. He explained that the Advisory Guide is being published this year in hopes more people would go down the PCS route.
- Richard Tannahill noted that Item H., eTIO, should not be with this group as training on the eTIO would be done internally. Veronica Yuke clarified that the eTIO awareness piece was different from training and could be removed from the list.
- Richard Tannahill asked about item G., Advisory Guides. Teresa Endres explained it was about how the board has been assisting with advisory guides like PCS, with committee members assisting with the functional program guide as subject matter experts. Veronica Yuke suggested adding that wording. Richard Tannahill informed the committee that he and Chris Tokas felt the committee was taking on a lot, with not all items expected to be done and many

1 potentially carrying over to next year. Teresa Endres responded that the  
2 committee was getting a lot done this year.

3 Teresa Endres noted that webinars had been a number one priority this year. She  
4 asked Richard Tannahill about the intent for revisions to the Guide for Working on  
5 OSHPD Projects, noting it had been updated two years ago. Richard Tannahill replied it  
6 should probably be removed, as Paul Coleman was helping update it for code changes  
7 and link corrections, and the committee would not be involved.

8 Teresa Endres suggested moving the Emergency Design Guide update to 2027.  
9 Richard Tannahill agreed.

- 10 • Courtney Johnson addressed the Instrumentation Committee item, stating the  
11 bulk of technical work was being done with the subcommittee, with pieces still  
12 being targeted to move forward in 2026. She noted webinar outlining was in  
13 progress as content was being pulled together, and her instinct was that this  
14 subcommittee would have a relatively light effort this year and more in 2027.

15 For eTIO awareness, Teresa Endres asked Michael Davis about other organizations to  
16 spread the word. Michael Davis mentioned the American Construction Inspectors  
17 Association but noted there was not a lot for inspectors individually. Teresa Endres  
18 suggested DBIA. Kelly Martinez asked for an outline of project size and whether it was  
19 for testing the eTIO. Teresa Endres clarified it was for awareness. Kelly Martinez  
20 suggested an email blast to all licensed individuals using contact information available  
21 on the HCAI website.

- 22 • Michael Davis supported the email blast idea, mentioning IORs and design  
23 professionals. He listed associations from a previous brainstorming meeting: AIA,  
24 AMFP, ASHRAE, CHI, ACIA, California Coalition of Professional Construction  
25 Inspectors, and SEAOC. Teresa Endres noted SEAOC was for structural  
26 engineers.
- 27 • Richard Tannahill provided an update on the eTIO, stating testing had not yet  
28 started but was about to. He noted final tweaks were being made and internal  
29 testing was completed. He responded to Kelly Martinez that smaller projects  
30 would be ideal because they could be processed faster. He stated all parts of the  
31 eTIO needed to be tested and security issues with site access were being  
32 worked on. He mentioned the eTIO was live in Accella but required permission to  
33 access. He noted Chris Davis had reached out to several people and asked for  
34 names of interested parties. Kelly Martinez asked about the building permit  
35 timeline. Richard Tannahill responded that projects at different stages were being  
36 taken, with recently permitted projects being good candidates, and smaller  
37 projects being preferred due to time cycles. Richard Tannahill mentioned an  
38 initial interest, but many projects did not pan out due to timelines.

1 Teresa Endres asked who would craft the email blast. Veronica Yuke responded they  
2 would work with the committee on that. Cody Bartley suggested making it an agenda  
3 item at the next meeting. Richard Tannahill mentioned Chris Davis would conduct a  
4 series of training and was recording everything, with videos to be made available.

5 Teresa Endres summarized the remaining 2026 goals as: support the development of  
6 webinars; develop a regular curriculum and predictable calendar for webinars; assist  
7 with advisory guides as subject matter experts; and eTIO awareness. Cody Bartley  
8 added PCS programs. Veronica Yuke stated no more items should be added and to  
9 revisit closer to the end of the year.

#### 10 **Committee and Public Comments**

- 11 • None

#### 12 **Informational and Action Items**

- 13 • The committee identified the 2026 goals as: support the development of  
14 webinars; develop a regular curriculum and predictable calendar of webinars;  
15 assist with advisory guides as subject matter experts; eTIO awareness; and PCS  
16 pre-approvals/prefabrication advancement.
- 17 • The committee moved the following items to 2027: revisions to the Guide for  
18 Working on OSHPD Projects (removed entirely as Paul Coleman is updating it);  
19 the Emergency Design Guide; the Collaborative Inspection Approach to Hospital  
20 Construction seminar; and the Instrumentation Committee webinar/seminar.
- 21 • Item H (eTIO training) was removed as it would be handled internally.
- 22 • The next meeting will include an agenda item for crafting the email blast for eTIO  
23 awareness and interfacing with organizations including AIA, AMFP, ASHRAE,  
24 CHI, ACIA, California Coalition of Professional Construction Inspectors, SEAOC,  
25 and DBIA.
- 26 • Chris Davis will conduct a series of training sessions and record them for  
27 distribution.

#### 29 **4. Update from the Ad Hoc “HCAI Design Guide for Planning and Preparing for 30 Disasters” Webinar Development Subcommittee**

31 **Facilitators:** Teresa Endres (or designee)

32 **Topic 1: Power Resilience, Regulatory Compliance, and the Future of Healthcare**  
33 **Infrastructure Webinar** (Presenters: John Griffiths and Jamie Schnick)

#### 34 **Discussion and Input**

1 John Griffiths greeted the committee and informed them he and Jamie Schnick had  
2 been updating the slides that morning. Teresa Endres requested that John Griffiths run  
3 through the slides for committee comments.

4 John Griffiths explained the timeline would target one hour and noted the cover slide  
5 would include placeholders for QR codes. He stated that David Bliss might join, and that  
6 he, David, and Jamie Schnick would introduce themselves. He outlined the agenda:  
7 defining resilience, emerging threats, solutions, opportunities, timeline, implementation  
8 feasibility (covered by Jamie Schnick and David), Q&A, and next steps. He confirmed  
9 with the group that David Bliss would monitor the chat and moderate questions at the  
10 end.

11 John Griffiths discussed defining resilience, contrasting baseline code (minimal  
12 resiliency, protect-in-place) with enhanced resilience goals (business as usual, design  
13 beyond code). He emphasized seamless switching from normal to emergency power to  
14 continue operations without interruption, citing patient stress, rescheduling, and financial  
15 impacts. He stated that code is a minimum baseline.

16 John Griffiths covered internal threats to power resiliency, including aging equipment  
17 (40-50 years old or older), deferred maintenance budgets, fiscal challenges, and skill  
18 shortages. He addressed external threats: over-taxed utility grids, increasing demands  
19 from all-electric hospitals, EVs, data centers, increasing extreme climatic events (winds,  
20 temperatures), and supply chain issues for critical components such as circuit breakers,  
21 transformers, and boards, with lead times of 96 weeks for certain circuit breakers.

22 John Griffiths discussed solutions, including onsite resources to supplement utility  
23 (PSPS support, not requiring seismic compliance) and onsite resources to serve as  
24 emergency power source (EPSS), noting code permits this and Jamie Schnick would  
25 discuss the work done. He emphasized that technology needs to catch up to code and  
26 discussed forward compatibility, distributed energy resources (DER), and additional  
27 revenue streams from virtual power plants. He praised HCAI's work from the microgrid  
28 white paper through the microgrid design guide and mentioned Jamie Schnick's  
29 accessibility for project consultation.

- 30 • Teresa Endres commented that the microgrid is no longer a white paper but an  
31 Advisory Guide, and suggested adding a hot link. John Griffiths agreed.

32 John Griffiths covered constraints: cost, space, seismic certification requirements (with  
33 few solutions currently certified), the call to action for engagement with HCAI on code  
34 updates, fragmented supply chains, and lack of familiarity with new vendors and  
35 developers. Teresa Endres suggested replacing "money" with "cost" to align with how  
36 clients speak. Jamie Schnick agreed to take notes.

37 John Griffiths discussed innovation pathways, design strategies (campus-wide, seismic  
38 designs, available footprint, utility connections), generation mix considerations, and  
39 integration with future technologies including autonomous microgrids, hydrogen fuel

1 cells, advanced storage, and vehicle-to-grid. He commended PG&E for allowing  
2 additional DERs on the grid.

3 Jamie Schnick took over the presentation, defining healthcare microgrids as  
4 interconnected loads and distributed energy resources within clearly defined boundaries  
5 acting as a single controllable entity. He traced code evolution: PVs in 1984, microgrids  
6 in 1997, fuel cells in 2002, and microgrids as essential electrical system source in 2022.

7 Jamie Schnick described the Kaiser Ontario microgrid distribution board with PV inputs,  
8 batteries, a large fuel cell, and utility connection orchestrated by a microgrid controller,  
9 capable of island mode operation. He explained two implementation options: as a  
10 supplement to utility service (parallel with normal system) or as the essential electrical  
11 source (Article 517 and 517.30).

12 Jamie Schnick detailed code requirements in Article 705 for microgrids supplementing  
13 utility, including listing requirements, marking disconnects, two-way power flow  
14 breakers, capacity verification, and commissioning plans. He explained that microgrid  
15 as emergency power source per NFPA 99 requires the system to assume critical and  
16 life safety loads within 10 seconds and operate for 96 hours, with sequence of  
17 operations and commissioning compliance.

18 Jamie Schnick described work on a CMS waiver allowing current code language for  
19 microgrids in lieu of emergency generators, replacing the requirement based on 2010  
20 NFPA 99 compliance. He introduced the microgrid guide A7, which covers hospital  
21 microgrids paralleling normal systems, microgrids serving as emergency power source,  
22 skilled nursing, and medical office buildings.

23 Jamie Schnick walked through the OSHPD1 hospital single line diagram demonstration  
24 with multiple sources (turbine, solar array, fuel cell, batteries) paralleling the normal  
25 distribution system. He concluded that permitting microgrids is achievable in California,  
26 with dozens of installed projects, and discussed code adoption timelines (2026  
27 California electric code adopted in 2027, 2028 California electric code adopted in 2029,  
28 drawing from 2026 National Electric Code).

- 29 • John Griffiths confirmed David Bliss was unavailable, and Jamie Schnick  
30 proceeded with project examples. Jamie Schnick described the Kaiser Ontario  
31 project with a 1.7 megawatt fuel cell. John Griffiths discussed the EOS batteries,  
32 noting it is likely the largest sustainable microgrid in the US and possibly the  
33 world, and described site constraints requiring stacking batteries on a covered  
34 retention pond, emphasizing access requirements.

35 Jamie Schnick described Valley Children's Hospital as a demonstration project funded  
36 by the California Energy Commission and Department of Energy, featuring a large PV  
37 array, large batteries, and a fuel cell, designed to back up the normal system and  
38 pursuing seismic certification. He described Kaiser Permanente San Marcos with a 1.7

1 megawatt fuel cell paralleling the normal system, carrying the entire load and saving  
2 money during normal operations, with continuous surgery capability during outages.

3 John Griffiths concluded that alternative solutions are allowed by code, fiscally viable for  
4 new construction and remodels, with examples including Kaiser Ontario, San Marcos,  
5 and Valley Children's. He emphasized the need for regulatory progress, fiscal viability,  
6 and a call to action for suppliers to provide certified emergency equipment.

## 7 **Committee and Public Comments**

- 8 • Teresa Endres requested the microgrid be referenced as an advisory guide  
9 rather than a white paper and asked about hot links to speakers.
  - 10 ○ John Griffiths confirmed and asked about linking Jamie Schnick and Dr.  
11 Bliss.
  - 12 ○ Evett Torres explained she could create QR codes when receiving links  
13 and outlines and asked for project links.
  - 14 ○ John Griffiths offered to provide the links by end of week.
- 15 • Noella Tabladillo asked whether having representatives from Valley Children's  
16 Hospital and Kaiser would be beneficial.
  - 17 ○ Richard Tannahill responded that the slides were too brief. Noella  
18 Tabladillo asked what links John Griffiths needed.
  - 19 ○ John Griffiths requested Kaiser and San Marcos links.
  - 20 ○ Jamie Schnick suggested searching for Kaiser Ontario for capacity  
21 information from groundbreaking ceremonies.
  - 22 ○ Veronica Yuke and Noella Tabladillo agreed Noella Tabladillo would send  
23 links directly to John Griffiths.
- 24 • Bill Zellmer praised the presentation and asked for clarification on code  
25 minimums versus enhanced design.
  - 26 ○ Jamie Schnick explained that the California electrical code requires three  
27 branches (life safety, critical, equipment), described code minimum  
28 operations including egress lighting, plug load, and HVAC for pressure  
29 differentials, with hospitals maintaining current patients, accepting no new  
30 ones, and completing operations within 90 minutes of generator capability.  
31 He noted lighting goes to 10% in corridors, 70% in patient spaces, and  
32 plug loads only at bedside.
  - 33 ○ John Griffiths added that switching disruption occurs when generators  
34 come up within 10 seconds, with HVAC delays, fire smoke dampers  
35 closing, and UPS-dependent computer systems. Bill Zellmer requested  
36 attention to surgery centers (OSHDP3) and asked for clarity on California's

mandatory versus next code cycle requirements. Jamie Schnick explained code revisions are permissive, not adding new requirements but allowing alternative solutions to existing requirements, stating generators remain a code-compliant option.

- Teresa Endres asked Jamie Schnick to convey these points in the webinar, noting attendees would include clients, technical architects, facilities staff, C-suite members, and design professionals.
  - Jamie Schnick agreed to add slides on code minimum versus business as usual and clarification that requirements are not more restrictive.
  - John Griffiths suggested adding a slide showing business as usual hospital operation.
  - Jamie Schnick suggested consulting with Gary Dunger and site leaders to sketch something out.

#### **Informational and Action Items**

- The webinar is scheduled for July 7th.
- John Griffiths will add the date to the first slide and add hot links to speakers including Jamie Schnick and Dr. Bliss. Evett Torres will create QR codes once links and outlines are provided.
- Noella Tabladillo will send Kaiser and San Marcos links directly to John Griffiths. John Griffiths will replace "money" with "cost" on the constraints slide.
- Jamie Schnick will add slides addressing code minimum versus business as usual and clarification that code revisions are permissive.
- John Griffiths and Jamie Schnick will work with Gary Dunger and site leaders to develop a slide showing business as usual hospital operation.

#### **Topic 2: Wildfire and Wildland Urban Interface Readiness for Healthcare Facilities Webinar** (Presenters: Janice Cheung, Gary Dunger, and Nanci Timmins)

##### **Discussion and Input**

Gary Dunger quickly ran through the slides: introduction of presenters, an icebreaker on building codes for wildfire-resilient healthcare design, and the agenda (welcome and introductions, wildland urban interface definition, new Title 24 part seven, fire hazard severity zones, hazards, operations and emergency planning, Q&A). He noted he would change the word "framing" in the agenda.

Gary Dunger covered slides on WUI designation triggers and mandatory design requirements, exposure risks for healthcare facilities (radiant heat, smoke infiltration, access issues from road closures), and fire hazard severity zones (moderate, high, very

1 high). He discussed code applicability, materials, restrictions, and impacts on hospital  
2 design.

3 Gary Dunger explained part seven, noting the last bullet stated it is not retroactive but  
4 contains parts that are retroactive (defensible space, vegetation requirements). He  
5 covered access and water supply requirements, fire department access impacts,  
6 emergency water storage, standby power requirements, and addresses road markings.

7 Gary Dunger discussed key areas for ignition-resistant construction (roof assemblies,  
8 eaves, soffits, vents, exterior walls, glazing, decks, projections, under floors), accessory  
9 and miscellaneous structures triggered by section 504, enclosed structures with ignition  
10 resistant requirements, and miscellaneous structures regulated elsewhere.

11 Gary Dunger covered primary wildfire exposure pathways, requirements for roofs and  
12 vulnerabilities, ventilation openings (ASTM and WUI code), exterior walls including  
13 glazing and doors, and the importance of fire hazard severity zone designations. He  
14 showed a QR code for determining fire hazard severity zones and described the  
15 OSHPD Emergency Operations Center webpage with CalFire fire hazard severity zone  
16 layers.

17 Gary Dunger noted some redundant slides he might remove, discussed hospital  
18 vulnerabilities and stressors (HVAC system smoke infiltration, power problems, staff  
19 shortages, supply deliveries, fuel deliveries). He introduced smoke readiness as a  
20 teaser for Abdel Darwich's upcoming webinar, covering filtration requirements,  
21 monitoring, clean air zones, and pre-filter replacement strategies.

22 Gary Dunger discussed infection control implications when reducing outside air intake,  
23 portable HEPA filters in various sizes, redundancy considerations, pre-wildfire-season  
24 testing, and a smoke readiness plan flow chart including scheduled testing, pre-event  
25 assessment, filter availability and upgrades, MERV 13 or higher filter compatibility,  
26 indoor air monitoring, supplemental filtration strategies, and checklists.

27 Gary Dunger addressed standby power requirements, noting most facilities have 24-72  
28 hours (sometimes 96) of emergency power while events can last 7-14 days, requiring  
29 fuel resupply logistics and load shedding consideration, with a reference to Jamie  
30 Schnick's microgrid systems.

31 Gary Dunger covered fire department access redundancies, surge capacity  
32 considerations during wildfire events (community gathering at hospitals, respiratory  
33 illness, regional hospital closure impacts), exterior triage and patient arrival  
34 considerations, compartment strategies as a teaser for another webinar, shelter-in-place  
35 versus evacuation decisions, alternate care site considerations, a checklist of present  
36 actions, and aligning facility design with operations for wildfire resilience.

## 37 **Committee and Public Comments**

- Teresa Endres suggested adding hot links to register for the WUI-HVAC and resiliency webinars on relevant slides to cross-pollinate webinars.
- Nanci Timmins noted they would add discussion of crossover topics between local jurisdictions and OSHPD and how those merge together.
- Janice agreed it was worth reordering and reorganizing slides for better flow and updating agenda slides accordingly.

### **Informational and Action Items**

- Gary Dunger will reorder several slides and modify the agenda wording (replacing "framing").
- Hot links to register for related webinars will be added.
- Nanci Timmins will add slides addressing crossover topics between local jurisdictions and OSHPD.
- Janice will work on slide reorganization and agenda updates.

### **Topic 3: Wildland Interface for HVAC Webinar** (Presenters: Abdel Darwich and Mikhail Fuks)

#### **Discussion and Input**

Abdel Darwich explained that he and Mikhail Fuks had revised the title to differentiate the webinar from the previous one, focusing on wildfire smoke specifically and adding "HVAC" in the subtitle.

Abdel Darwich outlined the agenda: background information, four concepts (knowing, planning, preventing, filtering), extra precautions for healthcare, "triple refill," and the future.

Abdel Darwich introduced the transition slide emphasizing that proximity to fire is not required for smoke impact, citing Sacramento 2018, San Francisco 2020, and the LA fire of 2025 (which jumped to burn an entire neighborhood, changing smoke chemistry under continued study).

Abdel Darwich provided background on smoke composition (particles and gases), noting VOCs are most smellable but not most dangerous, while PM 2.5 are most dangerous and penetrate deep into human lungs. He cited clinical data showing increased mortality, physician visits, and medication usage during wildfire smoke events, with non-linear negative effects.

Abdel Darwich explained particulate filters (working on interception) and gas phase filtration (working on gases). He referenced the "Design Guide" terminology preferred by Teresa Endres and noted sources including the Design Guide Section 7 and ASHRAE Guideline 44 published January 2025.

1 Abdel Darwich introduced the four concepts framed by colored squares (knowing,  
2 planning, preventing, removing) appearing on each slide for navigation. For knowing, he  
3 recommended PM 2.5 monitors at outside locations, ED entryways, or ambulance bays.  
4 For planning, he discussed the smoke readiness plan (SRP) with details in design guide  
5 section 7.2 and Guideline 44 section six, including a questionnaire about building  
6 occupancy during smoke events.

7 Abdel Darwich covered SRP sections: preparation (what, who, how much, cost), testing  
8 components (with infographic from the design guide), implementation timing (waiting for  
9 smoke or starting two days in advance based on prevailing wind), and return to normal  
10 operation (cleaning ducts, building flushing). He emphasized coordination with infection  
11 control in healthcare settings and including the SRP in the Owner's Project  
12 Requirements (OPR), Basis of Design (BOD), and sequence of operations for new  
13 projects.

14 For preventing, Abdel Darwich identified five smoke entry pathways: HVAC intakes,  
15 doors, envelope element leakage, and emissions from contaminated clothing  
16 (firefighters in ED). He recommended minimizing outside air without complete  
17 shutdown, disabling economizers, avoiding natural ventilation, using air curtains on  
18 doors, avoiding doors facing prevailing wind direction, weatherizing envelopes, visual  
19 inspections for cracks, professional thermal imaging inspections with pressurization,  
20 envelope commissioning, and air leakage goals. He emphasized keeping the building  
21 positive with more air in than out.

22 For removing, Abdel Darwich emphasized PM 2.5 removal through particulate mitigation  
23 as the primary goal, with VOC removal optional. He explained MERV 13 as the  
24 descriptive method minimum (stopping 85% of PM 2.5), balancing filtration with energy  
25 use. He noted Guideline 44 contains advanced calculation methodologies and  
26 equations, which they chose not to display to avoid intimidating audiences.

27 Abdel Darwich addressed frequent filter changes (sometimes every 2-3 days), with  
28 calculation methods in Guideline 44 and recommended filter stockpiling. He discussed  
29 HVAC measures including extra filter racks, smoke filtration, gas phase or carbon filters,  
30 and air cleaning with proper sizing. He covered portable air cleaners (PACs) per AHAM  
31 (American Home Appliances Manufacturing Association) recommendations of 1 CADR  
32 per square foot (e.g., 120 CADR for 120 square foot exam room), with infection control  
33 consultation required for pressure-controlled spaces.

34 Abdel Darwich discussed extra precautions for healthcare: difficulty evacuating, outlet  
35 filters in compounding pharmacies, pressure-controlled spaces requiring infection  
36 control consultation. He cited two incidents: one hospital lost medical air when a  
37 clogged compressor inlet filter without bypass shut down the system, and another  
38 facility found NICU incubator HEPA filters loaded quickly with wildfire smoke and had  
39 difficulty finding replacements.

Abdel Darwich referenced the 2020 "poly crisis" of earthquake, pandemic, and wildfire occurring simultaneously, noting the conflict between pandemic 100% outside air and wildfire outside air reduction. He concluded with the future, noting wildfires as continuous threats, Guideline 44's adoption in other standards, and LEED Version 5 awarding a point for wildfire resilience compliance with Guideline 44.

## **Committee and Public Comments**

- Teresa Endres commented that when Abdel Darwich refers to the guide, he should mention the upcoming update including ASHRAE Guideline 44 and Standard 241, so people know the guide is not static. She praised the four squares as good wayfinding for slides.
  - Abdel Darwich responded that the squares were developed after presenting the material more than 10 times to keep the audience engaged after 30 minutes of wildfire smoke discussion.
- Teresa Endres suggested adding a contact information slide before the Q&A slide.
  - Abdel Darwich acknowledged contact information had not been added and agreed to include it at the end.

## **Informational and Action Items**

- The webinar is scheduled for June 10th.
- Abdel Darwich will mention the upcoming guide update including ASHRAE Guideline 44 and Standard 241 during the presentation.
- Abdel Darwich will add contact information for himself and Mikhail Fuks before the Q&A slide.

## **5. Review Q&A from the January 14, 2026, Collaborative Inspection Approach to Hospital Construction Webinar**

**Facilitator:** Teresa Endres (or designee)

### **Discussion and Input**

Michael Davis noted that Marcus Palmer had sent the questions out the previous week with the meeting agenda. Michael Davis walked through each question and answer:

- For question one, regarding whether the IOR is expected to perform inspections daily while walking the project, Michael Davis read the response that CAC 7145A requires the IOR to perform continuous inspections during construction. He explained the IOR shall have personal knowledge obtained by continuous inspection of all parts of the work in all stages, with continuous inspection

1 meaning complete inspection of the work. He clarified there is no code requiring  
2 the IOR to perform inspections on a daily basis or only when requested.

- 3 • For question two, regarding why the NMA form was shortened to not include  
4 checkoff boxes for reasons of applying, Michael Davis explained that the six  
5 reasons are not an exhaustive list but examples of what can qualify as an NMA.  
6 He stated the answer was framed to encourage thinking about the NMA in terms  
7 of principle rather than seeking an exhaustive list.
- 8 • For question three, regarding why the IOR does eTIO closure instead of the  
9 DPOR, Michael Davis explained there is no code directing who submits  
10 documentation to OSHPD. He cited CAC 7141 explaining the DPOR's  
11 responsibility to administer the TIO and CAC 7151G explaining the DPOR is  
12 responsible for ensuring all required VCRs related to the project are submitted to  
13 OSHPD.
- 14 • For question four, regarding how long until an eTIO is released, Michael Davis  
15 noted the answer at the time was that it would be kicked off in a couple of months  
16 and was being gradually moved in with small projects.
- 17 • For question five, regarding how long the CAP certification is valid, Michael Davis  
18 stated the answer is three years per the CAP application and code cycle.
- 19 • For question six, regarding whether an inspection request should be used to  
20 ensure the IOR has reviewed drawings prior to construction, Michael Davis  
21 explained the answer points out this is not the purpose of the inspection request.  
22 He clarified the inspection request is meant to document what inspections  
23 happened and where and when, not to ensure the IOR is looking at drawings and  
24 details.
- 25 • For question seven, regarding the best practice for the DPOR to work with the  
26 lab to verify information when labs are hired by owners, Michael Davis read the  
27 answer citing CAC 7419 that approved testing inspection agency shall be  
28 acceptable to the architect or engineering responsible charge. He explained the  
29 DPOR is responsible for administering the TIO with no code requirement to  
30 contact the owner first, though it is best practice to gain knowledge on the  
31 qualification of the agency. He noted he was not entirely clear on the intent of the  
32 question but felt the answer pointed to where responsibility truly lies.
- 33 • For question eight, regarding what inspection related issues most often turn into  
34 change orders and what early coordination steps construction managers can  
35 take, Michael Davis read the lengthier response. He explained HCAI is not  
36 involved in contractual agreements between owner and construction or  
37 inspection parties, so it does not involve with change orders. He stated that  
38 where there are changes to approved construction documents, amended  
39 construction documents (ACDs) must be reviewed by HCAI to concur or approve

as NMA or ACD respectively. He noted changes to testing and/or inspection requirements must be reviewed and approved by HCAI field staff per CAC 7153A. He cited CAC 715145B requiring the IOR to notify the contractor of deviations from approved construction documents. He listed best practices: CMs being fully engaged and communicating effectively with design professionals, anticipating changes, coordinating between disciplines, conducting constructability reviews with installers, completing QC during installation, completing value engineering during design or before construction, and keeping design teams involved in decisions. He noted the principles were not an exhaustive list but should direct teams toward best results.

- For question nine, regarding how inspection findings should be used to support legitimate compliance change orders without normalizing avoidable rework, Michael Davis repeated that HCAI is not involved in contractual agreements and does not involve with change orders. He stated HCAI is focused on enforcing minimum code requirements, and the DPOR is responsible to review non-compliances flagged by the inspection team and provide direction.
- For the final question regarding the IOR's responsibility to schedule and manage the special inspection testing agency, Michael Davis cited CAC 7145 requiring the IOR to verify that all construction documentation is maintained on site during construction, inclusive of coordination of special inspections, testing, and project-specific approved testing agencies. He explained the IOR works hand in hand with the testing lab and there is no separating that.

Michael Davis concluded that some questions were vague or off topic, but the team did a good job reining them back to principles and code-specific facts to provide as helpful an answer as possible.

### **Committee and Public Comments**

- Teresa Endres confirmed the questions were received in the meeting agenda email and asked if there were any questions about the questions.
- Bill commented on grammar, noting that responses to questions eight and nine used the same sentence with the awkward phrasing "hence does not involve with change orders." Teresa Endres suggested "is not involved."
- Cody Bartley pointed out the date in the top left should be checked, noting it said 2025 when it was really 2026. Teresa Endres acknowledged it had taken her a while to notice. Michael Davis acknowledged the correction.

### **Informational and Action Items**

- The Q&A document requires grammatical revision to questions eight and nine to address the awkward phrasing "hence does not involve with change orders."

- The date in the top left of the document needs to be corrected from 2025 to 2026.

**6. Comments from the Public/Committee Members on Issues not on this Agenda**  
**The Committee will receive comments from the Public/Committee Members.**  
**Matters raised at this time may be taken under consideration for placement on a subsequent agenda.**

**Facilitator:** Teresa Endres (or designee)

**Discussion and Input**

Teresa Endres asked if there were any questions or comments from the board, OSHPD staff, or public on issues not on the agenda.

- Evett Torres asked about scheduling another meeting. Teresa Endres acknowledged the need to discuss scheduling.

Teresa Endres explained that three more webinars from the Design Guide webinar series remain to be reviewed: infection control for design, the combined webinar on infection control for ops and HVAC, and a third webinar that Kelly Martinez was working on with Jennifer Cox.

- Kelly Martinez identified the third as the Hazard Vulnerability Assessment (HVA).
  - Teresa Endres noted these three webinars still need to be reviewed at the Education and Outreach Committee level, plus some updates.
- Teresa Endres proposed a meeting in July to review the webinars and get them scheduled.
  - Veronica Yuke suggested looking at Wednesday or Thursday of week of the 18<sup>th</sup>.
- Teresa Endres indicated she could make either date work. Michael Davis stated he likely would not be available that particular week. Cody Bartley asked if the next week would work better, and Michael Davis confirmed it would. Veronica Yuke noted the 22nd looked good. Teresa Endres stated she could do the 22nd but not the 23rd. Veronica Yuke confirmed the 22nd looked open. Cody Bartley confirmed July 22nd.

Teresa Endres confirmed the next meeting would be July 22nd and would include reviewing the webinars and the upcoming agendas. Veronica Yuke reminded Teresa Endres about the email blast. Teresa Endres acknowledged she had the email blast on her list and added that she would put together a list of the webinar curriculum achieved this year. She stated this would be the agenda for July 22nd.

**Committee and Public Comments**

- None

1    **Informational and Action Items**

- 2           • The next Education and Outreach Committee meeting will be held on July 22nd.
- 3           • The agenda for the next meeting will include:
- 4               ○ reviewing the three remaining design guide webinar series webinars
- 5               (infection control for design, combined infection control for ops and HVAC,
- 6               and hazard vulnerability assessment);
- 7               ○ crafting the email blast for eTIO awareness;
- 8               ○ reviewing upcoming agendas; and
- 9               ○ presenting a list of the webinar curriculum achieved this year.
- 10          • Teresa Endres will put together the list of the achieved webinar curriculum for the
- 11          year.

12    **7. Adjournment**

13    Teresa Endres moved the meeting to adjournment at 12:26 p.m. and wished everyone a

14    good day.

# Ad Hoc How-To-Guide Development for Preapproved Fabricated Components and Systems Subcommittee of the Education and Outreach Committee

---

Draft Meeting Reports/Minutes

March 19, 2026

May 6, 2026

June 17, 2026

This page left intentionally blank.



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



**Hospital Building Safety Board  
Ad Hoc How-To-Guide Development for Preapproved  
Fabricated Components and Systems Subcommittee**

**March 19, 2026  
10:00 a.m. – 4:00 p.m.**

**Teleconference Meeting Access:**

2020 West El Camino Ave, Conference Room 930, Sacramento, CA 95833  
355 South Grand Avenue, Conference Room 2000, Los Angeles, CA 90071

**Committee Members Present**

Cody Bartley, Subcommittee Chair  
Belinda Young, Subcommittee Vice-Chair  
Michael Davis  
Gary Dunger  
Carl Newth

**Consulting Member Present**

Scott Karpinen

**HCAI Staff Present**

Richard Tannahill  
Ali Sumer

**HBSB Staff Present**

Veronica Yuke, Executive Director  
Evet Torres  
Marcus Palmer

**1. Call to Order and Welcome**

**Facilitator:** Cody Bartley, DPR Construction; Subcommittee Chair

Cody Bartley called the HBSB Ad hoc, How to Guide Development for Prefabricated Components and System Subcommittee meeting to order on March 19, 2025, at 10:00 a.m.

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

**Facilitator:** Veronica Yuke, HCAI; HBSB Executive Director

Veronica Yuke conducted roll call and confirmed a quorum. She presented meeting expectations and stated that voting would be conducted through roll call.

### 3. Review and approve draft February 12, 2026, meeting report/minutes

**Facilitator:** Cody Bartley, DPR Construction; Subcommittee Chair

#### Discussion and Input

Cody Bartley summarized the February 12, 2026, meeting. He stated that the subcommittee discussed the previous webinar and the definitions that were included in it. He further stated that the group held a brainstorming session to identify the topics that needed to be included in the outline. He explained that this discussion helped form a rough draft and establish the main speaking points, as well as identify areas that required further development. He described the discussion as a thorough review of what topics the subcommittee needed to address.

Cody Bartley reported that the informal action items included development of the outline based on the prior discussion and distribution of the questions and answers from the previous webinar. He also stated that the committee discussed the current meeting date and outlined the vendor presentations they wanted to hear. He noted that those presentations had since been scheduled and would take place immediately after this section.

#### Subcommittee and Public Comments

- None.

#### Voting

Motion to approve the draft January 22, 2026, meeting report/minutes.

- **Motion:** Scott Karpinen
- **Second:** Gary Dunger
- **Outcome:** Motion passed unanimously.

#### Informational and Action Items

- The February 12, 2026 meeting report/minutes was approved.

### 4. Vendor Presentation: DuraFuse Frames PCS-0004

**Facilitator:** Justin Marshall

Justin Marshall began by presenting a timeline of the DuraFuse PCS process. He stated that DuraFuse initially submitted its design guide PCS application in February 2022. He explained that the company then spent approximately 18 months working back and forth with its HCAI reviewer on technical review items. He stated that version 1.0 received approval in July 2023.

1 He further explained that since the initial approval, DuraFuse had submitted two  
2 additional rounds of updated information, which HCAI reviewed and approved. He  
3 stated that as of November 2025, the system was on version 3.0. He noted that some  
4 revisions involved drawing updates, while others involved technical design changes. He  
5 also stated that the company was preparing additional updates related to the transition  
6 to the 2025 California Building Code and other technical revisions, which were expected  
7 to be submitted in April and May 2025. In addition, he reported that DuraFuse had  
8 recently completed testing for pre-Northridge connection retrofits and planned to submit  
9 a second design guide specifically related to seismic retrofit applications.

10 Justin Marshall explained that one of the primary motivations for pursuing the PCS was  
11 the lengthy timeline associated with building code adoption. He stated that the structural  
12 steel standards must first move through AISC, then ASCE 7, then the IBC, and finally  
13 the CBC, which creates a significant delay before new systems can be used in hospital  
14 projects. He stated that the PCS allowed DuraFuse to begin using its system in hospital  
15 facilities more quickly. He also stated that the PCS provided a streamlined  
16 prequalification process for Level 1 facilities and reduced perceived risk for design  
17 teams, construction teams, and owners.

18 He stated that the PCS also reduced uncertainty during plan review because it  
19 consolidated the relevant technical information into a single document. He explained  
20 that this created more predictable and consistent outcomes during permitting and  
21 review and increased opportunities for use in hospital projects.

22 Regarding the review process, Justin Marshall described it as a comprehensive and  
23 technically rigorous review. He stated that DuraFuse had already completed review by  
24 the AISC connection prequalification review panel before submitting for PCS approval.  
25 He explained that the initial review from February 2022 through July 2023 involved  
26 several rounds of technical review, responses to comments, and updates. He stated  
27 that each turnaround cycle typically took approximately six to eight weeks and usually  
28 included a follow-up meeting. He noted that subsequent revisions moved somewhat  
29 faster because they involved smaller portions of the document.

30 He also stated that modifying language that was included in the original approval had  
31 proven difficult and required substantial effort.

32 Justin Marshall stated that once the PCS was published, DuraFuse received more  
33 opportunities to work on hospital projects. He explained that engineers, contractors, and  
34 fabricators were more willing to consider the system because the PCS increased  
35 confidence in its use. He also acknowledged that the company continued to make  
36 editorial and technical updates based on lessons learned from project use.

37 Regarding the TIO, he stated that it was initially developed by DuraFuse personnel  
38 based on company testing and the AISC 358 connection prequalification panel review.

1 He explained that the company then worked with its HCAI reviewer to finalize the TIO  
2 included in the design guide. He described the TIO as relatively straightforward and  
3 stated that it primarily focused on field inspection of bolting and the steel fabrication and  
4 shop drawing review process.

5 As advice for others pursuing a PCS, Justin Marshall stated that the PCS was the best  
6 available option for expediting preapproval for HCAI projects. He recommended early  
7 engagement with HCAI to understand process requirements, timelines, and  
8 expectations. He emphasized the importance of complete documentation, including test  
9 reports and design documentation, to reduce review iterations. He also advised others  
10 to carefully review all prescribed HCAI language before approval, noting that later  
11 revisions can be difficult. He additionally stated that applicants should understand that  
12 HCAI review includes a significant cost associated with staff review time.

- 13 • Following the presentation, Cody Bartley thanked Justin Marshall and asked  
14 whether the referenced costs related primarily to time and manpower or to  
15 additional testing.
  - 16 ○ Justin Marshall clarified that the cost he referenced related specifically to  
17 HCAI staff review time and invoiced review hours. He stated that testing  
18 costs were separate and would have been incurred regardless of HCAI  
19 submission.
- 20 • Scott Karpinen commented that he had initially been skeptical of the PCS  
21 process but now viewed it as highly beneficial. He described a previous hospital  
22 project in which the team had considered the DuraFuse system but ultimately  
23 chose another option because they lacked confidence in OSHPD review  
24 timelines and field implications before the PCS was available. He stated that, had  
25 the PCS existed at that time, the team likely would have selected DuraFuse.
- 26 • Cody Bartley added that he was currently involved in an acute care facility project  
27 in which DuraFuse was listed as a structural option specifically because it  
28 already had PCS approval. He stated that he was beginning to see the PCS  
29 process directly influence project specifications and available structural options.
  - 30 ○ Justin Marshall stated that this experience was consistent with what  
31 DuraFuse was seeing in the market.

### 32 33 **Subcommittee and Public Comments**

- 34 • Scott Karpinen provided comments regarding the practical benefits of the PCS  
35 process based on prior project experience.
- 36 • Cody Bartley provided additional board comments regarding current project use  
37 and market recognition of the DuraFuse PCS.

## Informational and Action Items

- The subcommittee received the vendor presentation from Justin Marshall regarding DuraFuse Frames PCS-0004.
- The presentation provided information regarding the PCS approval timeline, review process, TIO development, project implementation, associated costs, and recommendations for future PCS applicants.

### 5. Vendor Presentation: SurePods PCS-0003

**Facilitator:** Jake Meyer, West Coast Project Manager, SurePods (or designee)

Jake Meyer thanked the subcommittee for the opportunity to provide feedback on the PCS process and addressed the prepared discussion questions.

Regarding what motivated SurePods to pursue the PCS and the advantages of doing so, Jake Meyer explained that the effort began in 2021 with a structural pre-approval for the bathroom pods. He stated that he took over the process beginning with version two, which expanded the structural pre-approval to include mechanical, electrical, plumbing, fire life safety, and related pre-approved system details. He explained that version three added a TIO program specific to SurePods' prefabricated bathroom pods and established a guideline for offsite prefabrication.

He stated that California represented a largely untapped market for prefabricated bathroom pods and that the PCS served as a proof of concept to demonstrate to HCAI, clients, and design teams that the product could be approved and used in California hospital construction. He explained that the primary anticipated advantage was allowing customers to select a pre-approved pod design and remove design and review time from project schedules.

Regarding the company's experience going through the process, Jake Meyer explained that SurePods involved multiple disciplines, including structural, mechanical, electrical, plumbing, fire life safety, and architectural scopes. He stated that the company began with a pod design previously used on a non-California project and selected the most standard rectangular layout as a baseline.

He explained that SurePods onboarded engineering subcontractors to redesign the pod as necessary to comply with PCS requirements and California Building Code requirements. After updating the drawings, SurePods submitted them to HCAI, where each discipline reviewed and returned comments separately. He described the process as highly collaborative, particularly because HCAI staff and reviewers met with SurePods through Teams meetings to clarify questions and comments. He stated that

1 after comment resolution, the second submission and final approval process for version  
2 two took approximately one and one-half to two weeks.

3 He stated that version three followed a similar process but focused more heavily on  
4 inspection services and TIO requirements.

5 Regarding use of the PCS, Jake Meyer stated that SurePods had not yet been able to  
6 utilize the PCS to its fullest extent. He explained that while the PCS had served as a  
7 strong proof of concept and opened discussions with clients and design teams, the  
8 company's goal remained to provide a fully pre-approved pod that could be directly  
9 incorporated into a project without redesign.

10 He stated that engineering assumptions and design constraints limited this objective.  
11 Specifically, he noted that the approved pod design was based on a four-sided  
12 rectangular box with maximum dimensions of eight feet by ten feet. He explained that  
13 projects with slab designs outside the approved assumptions, different fixture layouts, or  
14 significant architectural modifications could require supplemental engineering or re-  
15 review. He further explained that determining the threshold for when layout changes  
16 require re-review remained an active point of collaboration with HCAI staff.

17 Jake Meyer stated that hospital clients often want individualized bathroom layouts,  
18 finishes, and fixture placements, which makes full standardization challenging. He  
19 stated that SurePods continued to work toward a balance between custom design and a  
20 catalog-style pre-approved product.

21 Regarding development of the TIO, Jake Meyer stated that HCAI was highly  
22 collaborative throughout the process. He explained that SurePods worked primarily with  
23 former head of inspection services Joe Labrie, who visited the company's Phoenix  
24 facility to review its production process, quality control program, and customization  
25 procedures.

26 He explained that the first step involved defining inspection milestones before  
27 production, during production, and after installation at the job site. He stated that  
28 because the pods involve multiple disciplines, the TIO had to address structural framing  
29 inspections, material identification, MEP rough-in inspections, and fire life safety  
30 components.

31 He stated that the parties also worked to determine a reasonable inspection cadence for  
32 offsite construction and ultimately established a framework of inspections at  
33 approximately 10 to 25 percent production completion increments, with prototype  
34 inspections occurring before production began.

1 He explained that SurePods believed continuous full-time inspections were  
2 unnecessary due to the company's documentation and quality control systems and that  
3 HCAI agreed with this approach.

4 Regarding advice for others considering a PCS, Jake Meyer stated that applicants  
5 should first determine whether their product requires HCAI review during permitting and  
6 whether it introduces something new or unique to the industry or to HCAI review  
7 processes. He stated that if so, a PCS would likely be beneficial.

8 He further advised that applicants evaluate whether their product can be standardized.  
9 He stated that if a product must be fully custom designed for every project due to  
10 numerous variables, a PCS may not be practical.

- 11 • Richard Tannahill commented that HCAI had been working with SurePods to  
12 build greater flexibility into the PCS and stated that they were close to allowing  
13 more variables within a maximum size.
  - 14 ○ Jake Meyer agreed and stated that the goal remained to allow a pre-  
15 approved pod to function more like a catalog product.
  - 16 ○ He also explained that SurePods had been educating owners, contractors,  
17 and architects on the assumptions built into the PCS, including pod shape,  
18 dimensions, slab design, fixture layout, door types, and ADA constraints.
- 19 • Cody Bartley asked Jake Meyer about the timeline for approval of version one.
  - 20 ○ Jake Meyer stated that he could not provide that information because he  
21 assumed responsibility after version one had already been approved.
- 22 • Ali Sumer explained that version one involved extensive multidisciplinary  
23 discussions because the PCS program was new at the time. He stated that the  
24 timeline was longer primarily because HCAI needed to bring the correct  
25 disciplines into the process and establish distinctions between OPM and PCS  
26 programs.
- 27 • Scott Karpinen commented that he hoped HCAI would continue building flexibility  
28 into the PCS process because hospitals often require different bathroom  
29 configurations and fixtures.
- 30 • Richard Tannahill responded that HCAI was very close to that objective.
- 31 • Scott Karpinen also asked about the inspection process and whether certain  
32 inspections could be completed in the field.
  - 33 ○ Jake Meyer explained that the pods are shipped without exterior  
34 sheathing, which allows all wall cavities, in-wall MEP systems, and  
35 framing to remain visible for inspection after delivery and before final  
36 installation. He stated that SurePods intentionally tried to move as much

inspection activity offsite as possible so that the pods could arrive as largely inspected units.

- Richard Tannahill added that the intent was to complete all possible inspections in the factory and limit onsite review to unloading inspections, transport damage checks, and final connection verification.

## **Subcommittee and Public Comments**

- Cody Bartley asked a follow-up question regarding the approval timeline for version one.
- Richard Tannahill provided subcommittee comments regarding ongoing efforts to expand flexibility within the PCS.
- Ali Sumer provided HCAI staff comments regarding the multidisciplinary nature and timeline of version one approval.
- Scott Karpinen provided comments regarding flexibility and inspection processes and asked follow-up questions related to field inspections.

## **Informational and Action Items**

- The subcommittee received the vendor presentation from Jake Meyer regarding SurePods PCS-0003.
- The presentation addressed the PCS motivation, approval process, use limitations, TIO development, inspection cadence, and recommendations for future applicants.
- HCAI staff and SurePods indicated that they are continuing to work toward greater flexibility within the PCS framework.

## **6. Vendor Presentation: STARC Systems OPM-0642**

**Facilitator:** Mark Marquez, Regional Sales Manager, STARC Regional Sales Manager (or designee)

Mark Marquez introduced Bruce Bickford, former Vice President of Product Development for STARC Systems, and stated that Bruce Bickford had spearheaded the OPM approval process.

Bruce Bickford explained that STARC Systems provides temporary wall systems used for containment and barriers within construction settings. He stated that from the company's early development, there had been strong interest in creating a one-hour fire-rated product and that serious development began in 2019.

He explained that a key regulatory hurdle for entering the California market was obtaining an OPM approval through OSHPD, now HCAI. He stated that the primary

1 motivations were obtaining both seismic approval and fire-related acceptance for the  
2 wall system in California hospital projects.

3 He stated that STARC Systems worked closely with OSHPD, later HCAI, including  
4 Nanci Timmins and staff in the fire office. He further stated that the company retained  
5 Degenkolb, a California civil engineering firm, as a key partner to assist with structural  
6 evaluations, design presentations, and preparation of the application materials.

7 Bruce Bickford stated that the OPM process began in 2021. He explained that the initial  
8 review cycle included an 80-day nominal startup review period, followed by two  
9 published 30-day review cycles. He stated that HCAI generally remained on schedule,  
10 possibly taking closer to 90 days for the first review, and that the feedback provided was  
11 constructive and useful.

12 He explained that after receiving comments, STARC Systems and Degenkolb revised  
13 the drawing packages and application materials and completed the final review cycle in  
14 late 2021. He further stated that the company later made design changes to improve the  
15 product and returned in 2023 to revise the OPM by adding new components and  
16 modifying parameters of the wall system to better meet customer needs and improve  
17 flexibility. He stated that this revision process took approximately 150 days and was  
18 completed toward the end of 2023.

19 Regarding fire approval, Bruce Bickford explained that because the product was a one-  
20 hour rated fire system, the company sought written approval from HCAI. He stated that  
21 Nanci Timmins made clear that HCAI did not issue written approvals for fire ratings. He  
22 explained that the company instead obtained approval through the California State Fire  
23 Marshal's office.

24 He stated that although HCAI did not issue written fire approval, staff were willing to  
25 discuss the system with regulatory personnel and verbally support the product during  
26 project reviews.

27 Regarding use of the OPM, Bruce Bickford explained that STARC Systems sells directly  
28 to contractors and also rents systems through rental partners. He stated that once the  
29 materials leave the company, STARC Systems primarily provides technical and  
30 engineering support as needed, but is generally not directly involved in project-specific  
31 approval cycles.

32 He explained that project approvals typically move through engineers and HCAI  
33 reviewers, who reference the OPM during review. He stated that questions occasionally  
34 return to STARC Systems regarding specific field conditions, applicability, best use, and  
35 alternate means of compliance, particularly in complex hospital environments involving  
36 fire barriers above ceilings.

1 He further stated that inspections and field interpretation questions are typically handled  
2 directly by contractors, subcontractors, or Degenkolb.

3 Regarding advice for others pursuing an OPM, Bruce Bickford emphasized the  
4 importance of engaging an experienced engineering partner early in the process. He  
5 stated that Degenkolb's experience with HCAI and familiarity with California  
6 requirements was critical to the project's success.

7 He stated that although the timeline was stressful for a fast-moving development  
8 company, the overall process worked well and resulted in successful approval.

9 Cody Bartley thanked Bruce Bickford for presenting and stated that hearing about the  
10 OPM process provided a different perspective from the PCS presentations discussed  
11 earlier in the meeting. He stated that the presentation was helpful in understanding the  
12 benefits of the OPM process.

### 13 **Subcommittee and Public Comments**

- 14 • Cody Bartley provided subcommittee comments thanking Bruce Bickford for  
15 presenting and noted the value of hearing the OPM perspective in contrast to the  
16 PCS presentations.

### 17 **Informational and Action Items**

- 18 • The subcommittee received the vendor presentation from STARC Systems  
19 regarding OPM-0642.
- 20 • The presentation addressed the motivation for pursuing the OPM, the approval  
21 timeline, fire approval coordination, implementation experience, and  
22 recommendations for future applicants.

## 24 **7. Review and Discuss Proposed White Paper Outline**

25 **Facilitator:** Cody Bartley (or designee)

### 26 **Discussion and Input**

27 Cody Bartley stated that after hearing from three vendors and receiving three different  
28 perspectives on the program, the outline previously prepared would need to be revisited  
29 to incorporate the new feedback. He explained that this was the board's first formal  
30 review of the outline and that the goal was to assign responsibilities and determine  
31 deliverables for each section.

32 He began by reviewing the definitions section, stating that the definitions were carried  
33 forward directly from the prior webinar and had already undergone significant discussion  
34 and refinement during multiple previous meetings. He stated that he intended to carry  
35 forward the same definitions unless the board identified a reason to revise them.

1 He then reviewed the process section, explaining that it should address the process for  
2 obtaining pre-approval, using a pre-approval, and handling project-specific  
3 prefabrication that does not apply broadly across the California market. He noted that  
4 HCAI staff input would be critical for this section. He also stated that this section should  
5 include practical advice for navigating the process, including recommendations such as  
6 engaging California-based engineers or professionals with prior experience shepherding  
7 applicants through HCAI review.

8 Cody Bartley next addressed the inspections section, including how TIOs are developed  
9 and implemented, and emphasized the importance of highlighting collaboration between  
10 HCAI and manufacturers.

11 He then discussed the fire life safety section, stating that the STARC Systems  
12 presentation provided valuable insight into fire life safety considerations and that the  
13 white paper needed to clearly explain what applicants should expect and how to  
14 navigate this portion of the process.

15 He reviewed the example projects section, identifying UCSF Parnassus, Kaiser  
16 Roseville, and Sutter Santa Clara as potential case study examples.

17 He also reviewed the vendor feedback section, which would capture key takeaways and  
18 recommendations from the vendors who presented during the meeting.

19 Finally, he stated that the Q&A section would incorporate the questions and answers  
20 from the June 24, 2024, webinar and potentially expand into a broader frequently asked  
21 questions section.

- 22 • Scott Karpinen asked whether the Q&A section would include a general FAQ  
23 section beyond the webinar questions. Cody Bartley agreed that it could and  
24 stated that a dedicated FAQ section or threaded FAQs throughout the document  
25 would be beneficial.
- 26 • Cody Bartley further stated that the white paper should emphasize advice,  
27 appeal, and benefits to make the prefabrication process less intimidating and  
28 encourage industry adoption.
- 29 • Gary Dunger suggested adding a separate section addressing the Alternate  
30 Method of Compliance (AMOC) process, particularly as it relates to fire life safety  
31 issues and changes to pre-approvals. He stated that this would be especially  
32 valuable because many fire life safety approvals involve AMOCs.

33 Cody Bartley agreed and proposed adding a dedicated section between the fire life  
34 safety section and example projects section to address AMOCs and changes to pre-  
35 approvals after issuance.

1 The subcommittee then moved into assignment of responsibilities for development of  
2 each section:

- 3 • Cody Bartley agreed to begin drafting the process section using prior webinar  
4 materials and coordinate with HCAI staff.
- 5 • Ali Sumer agreed that Cody Bartley could begin drafting and HCAI staff would  
6 continue development from there.
- 7 • Veronica Yuke requested that the draft be circulated to HCAI staff once  
8 completed.
- 9 • The inspections section was assigned to Michael Davis, with Scott Karpinen  
10 offering assistance.
- 11 • Veronica Yuke agreed to coordinate Nanci Timmins' input for the fire life safety  
12 section.
- 13 • The new AMOC/change to pre-approval section was tentatively assigned to  
14 Belinda Young due to her design professional perspective.
- 15 • Cody Bartley agreed to follow up with SurePods regarding UCSF Parnassus.
- 16 • Cody Bartley stated that he would reach out to Belinda Young regarding Kaiser  
17 Roseville and Sutter Santa Clara.
- 18 • Cody Bartley agreed to take the lead on vendor feedback.
- 19 • The Q&A and FAQ section would continue to be developed at the next meeting.
- 20 • The subcommittee also reviewed the June 2024 webinar Q&A spreadsheet,  
21 noting that many questions still required formal answers before publication. Cody  
22 Bartley stated that he would add responsibility assignments, develop preliminary  
23 responses, and circulate the updated spreadsheet for further review before the  
24 next meeting.

25 Cody Bartley concluded that the outline was now established and that the next step  
26 would be development of each section prior to the next meeting.

### 27 **Subcommittee and Public Comments**

- 28 • Scott Karpinen provided comments and recommendations regarding inclusion of  
29 a general FAQ section and offered assistance with the inspections and offsite  
30 fabrication sections.
- 31 • Gary Dunger provided comments recommending inclusion of an AMOC section.
- 32 • Ali Sumer and Veronica Yuke provided staff input regarding development  
33 responsibilities and document circulation.

## Informational and Action Items

- The subcommittee reviewed and discussed the proposed white paper outline.
- Cody Bartley to draft the process section and vendor feedback section
- Michael Davis, with Scott Karpinen's assistance, to develop the inspections section
- Veronica Yuke to coordinate fire life safety input from Nanci Timmins
- Belinda Young to be contacted regarding the AMOC/change section and example projects
- Cody Bartley to follow up with SurePods and develop responsibility assignments for webinar Q&A responses
- Updated drafts and assigned responses to be circulated prior to the next meeting

## 8. Determine timeline for Deliverables and Next Meeting Date

**Facilitator:** Cody Bartley (or designee)

### Discussion and Input

Cody Bartley stated that, after reviewing calendars and upcoming board commitments, he was considering scheduling the next subcommittee meeting during either the last week of April or the first week of May. He noted that the full board meeting was scheduled for April 9 and that additional meetings beginning the second week of May could create scheduling conflicts. He emphasized the importance of maintaining momentum on the white paper development effort.

- Carl Newth indicated that the proposed timing was acceptable.

Cody Bartley asked whether the group wanted to select a date immediately or distribute a scheduling poll.

- Veronica Yuke noted that Belinda Young and Michael Davis were not present and recommended using a scheduling poll.
- The subcommittee agreed to issue a poll for dates during the first week of May, specifically around May 5 through May 7.
- The discussion then shifted to deliverables. Cody Bartley stated that the immediate focus should be on written content for the white paper rather than graphics or formatting. He emphasized that the deliverables should consist of substantive written content and process descriptions.
- Veronica Yuke and Evett Torres discussed agenda posting deadlines and initially reviewed possible submission dates. After recalculating the timeline, Evett Torres

clarified that if materials were to be formally included with the agenda, they would need to be submitted by April 22.

Cody Bartley proposed targeting April 22, 2026, as the deadline for submission of draft content materials.

He further explained that HCAI and board staff would be reviewing the submitted material for the first time during the next meeting in the first week of May.

Cody Bartley also discussed the overall publication timeline for the white paper. He stated that the goal was to publish the white paper before the end of the calendar year. He estimated that the subcommittee would likely need at least three additional meetings before the white paper would be ready for final publication. He described the anticipated sequence as:

1. Review of draft content at the next meeting
2. Subsequent meeting for review of finalized content
3. Final review meeting prior to publication

- Scott Karpinen agreed that the projected timeline and workload appeared reasonable.
- Ali Sumer noted that he would be unavailable for two weeks and requested additional flexibility.

Cody Bartley stated that Ali Sumer's portion could be submitted approximately one week later if necessary, while still maintaining the overall schedule.

- Veronica Yuke stated that board staff would send reminders as the deadline approached.

Cody Bartley acknowledged that the reminders would be helpful and reiterated the importance of keeping the project moving forward.

## **Subcommittee and Public Comments**

- Carl Newth, Scott Karpinen, Ali Sumer, Veronica Yuke, and Evett Torres provided subcommittee and staff comments regarding scheduling, deadlines, and deliverable timing.

## **Informational and Action Items**

- Board staff to distribute a scheduling poll for the first week of May 2026
- Draft white paper content materials due by April 22, 2026
- Next meeting tentatively planned for the first week of May 2026
- Board staff to issue deadline reminders

- Subcommittee to continue development toward end-of-year publication target

## **9. Comments from the Public/Subcommittee Members on Issues not on this Agenda.**

**Facilitator:** Cody Bartley (or designee)

Cody Bartley stated that the subcommittee had completed discussion of the timeline, deliverables, and next meeting scheduling. He then opened the floor for questions or public input from members of the board, HCAI staff, and members of the public regarding issues not listed on the agenda.

- None.

## **10. Adjournment**

Cody Bartley thanked all participants for their attendance and contributions and stated that he looked forward to seeing everyone again during the first week of May. He noted that the meeting had generated significant input and encouraged members to consider how to apply the discussion to their assigned sections. The meeting was adjourned 11:37 a.m.

This page left intentionally blank.



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



**Hospital Building Safety Board  
Ad Hoc How-To-Guide Development for Preapproved  
Fabricated Components and Systems Subcommittee**

**May 6, 2026  
10:00 a.m. – 4:00 p.m.**

**Meeting Location:**

2020 West El Camino Ave, Conference Room 930, Sacramento, CA 95833  
355 South Grand Avenue, Conference Room 2000, Los Angeles, CA 90071

**Subcommittee Members Present**

Cody Bartley, Chair  
Belinda Young, Vice-Chair  
Gary Dunger  
Scott Karpinen  
Carl Newth  
Michael Davis

**HCAI Staff Present**

Arash Altoontash  
Richard Tannahill  
Alireza Asgari  
Ali Sumer

**HBSB Staff Present**

Veronica Yuke, HBSB Executive Director  
Marcus Palmer  
Evetts Torres

- 1 **1. Call to Order and Welcome**
- 2 **Facilitator:** Cody Bartley, DPR Construction; Subcommittee Chair (or designee)
- 3 Cody Bartley greeted attendees and called the HBSB Ad hoc How to Guide
- 4 Development for Pre-Approved Fabricated Components and Systems Subcommittee
- 5 meeting to order on May 6th, 2026 at 10:00 a.m.
- 6

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

**Facilitator:** Veronica Yuke, HCAI; HBSB Executive Director (or designee)

Veronica Yuke conducted roll call and established that a quorum was present. She communicated the rules of engagement and the voting process to be conducted via roll call.

## **3. Review and approve the draft March 19, 2026, meeting report/minutes**

**Facilitator:** Cody Bartley, DPR Construction; Subcommittee Chair (or designee)

### **Discussion and Input**

Cody Bartley reviewed the contents of the meeting report, noting it began with a review and approval of the February 12, 2026, meeting minutes.

He summarized the vendor presentation by DuraFuse (PCS004), facilitated by Justin Marshall, who discussed spending approximately 18 months on the technical terms to get version one approved.

Cody Bartley summarized the vendor presentation by SurePods (PCS003), noting they discussed the process and how they had been listed on additional projects, including comments on the duration of time required to obtain the first PCS.

He also summarized the vendor presentation by Starc (OPM0642), which focused on fire life safety components and aspects of obtaining pre-approval.

Cody Bartley then noted the meeting moved to a review and discussion of the proposed white paper outline. He clarified that at that time, the document was thought to be a white paper and was structured accordingly. He stated the Subcommittee went through the entire outline, assigned parts for development to build on the outline, and determined the next meeting date. Cody Bartley concluded that the bulk of the meeting time was taken by the three vendor presentations, with significant conversation around development of content and sections.

### **Subcommittee and Public Comments**

- None

### **Voting**

- Move to approve the March 19th, 2026, draft meeting report of the How-to Guide Development for Pre-Approved Fabricated Components and Systems Subcommittee.
- **Motion:** Cody Bartley

- **Second:** Carl Newth

- **Outcome:** Motion passed unanimously with no abstentions.

### **Informational and Action Items**

- The March 19th, 2026, staff meeting report of the How-to Guide Development for Pre-Approved Fabricated Components and Systems Subcommittee was approved.

## **4. Review and discuss proposed Advisory Guide outlines**

**Facilitator:** Cody Bartley, DPR Construction; Subcommittee Chair (or designee)

### **Discussion and Input**

Cody Bartley explained that based on the full board update, the document was moving from a white paper outline to an advisory guide. He noted there were more templates for advisory guides and that, based on other advisory guides, the document would not go into project-specific examples but would take a more high-level approach to the process. He suggested the subcommittee would need to reevaluate how examples are incorporated, stating he still believed there were stories with the OPMs but the advisory guide should not reference specific OPMs.

Cody Bartley emphasized this was a more formal process and noted the last meeting had been broad in trying to cover everything about pre-approvals and prefabrication. He stated he wanted to focus the advisory guide back to the title of the subcommittee, which is *pre-approved fabricated components and systems*, clarifying it is not an advisory guide for all of prefabrication but focused specifically on *pre-approvals*.

- Scott Karpinen agreed with the clarification and stated he had been under the impression the outline focus was vague, thanking Cody Bartley for clarifying.

Cody Bartley acknowledged that as he developed the outline, it had become too broad and needed to be brought back in for pre-approval aspects. He stated the advisory guide would lead with definitions, then move to Section Two on the process, which was the meat of the document. He noted he had harvested information from the webinar and that an email had been sent from HCAI to fill in this part.

- Alireza Asgari explained that what was used in the previous meeting was not going to be used. He stated that this is what was asked for previously, which was a written document in text format for the white paper covering the process for a PCS in the group and the process for a project in a region, which are two different processes. Alireza Asgari noted the format had changed.

1 Cody Bartley responded that the content was still the meat of what was needed but the  
2 format would change because it was now an advisory guide. He stated the project-  
3 specific approach was not necessarily a pre-approval program and was not an OPM or  
4 a PCS, and the focus should be on pushing the industry to obtain pre-approvals before  
5 becoming just a project review.

- 6 • Alireza Asgari asked whether pre-approval referred only to PCS or also included  
7 OPM.

- 8 • Ali Sumer (HCAI) responded that there was demand for pre-approving some  
9 details for a facility, noting the regions had been entertaining the option of pre-  
10 approving certain details facility-wide, and the facility later submits a project using  
11 the pre-approved details. He explained that the project does not have  
12 construction or a permit but serves as an inventory of details, also called pre-  
13 approved. He stated it was up to the Subcommittee whether to include this  
14 process as pre-approved or keep it under PCS.

15 Cody asked how many processes the Subcommittee wanted to cover in the white  
16 paper: PCS, OPM, and project-specific pre-approvals.

- 17 • Ali Sumer corrected this to facility-specific.
- 18 • Cody Bartley agreed and stated the process section would have three  
19 components addressing those three buckets independently, with each having its  
20 own process to be addressed separately.

21 Cody Bartley reviewed the existing content on PCS, noting good development with the  
22 PCS outline, including documents and attachments. He proposed combining the  
23 process to obtain pre-approval with the process to use the pre-approval into three  
24 sections addressing each topic. He asked Alireza Asgari whether what HCAI sent broke  
25 down into PCS, OPM, and project-specific sections.

- 26 • Alireza Asgari explained the new sections included process to get pre-approval,  
27 process to use the pre-approval through project-specific prefabrication, and a  
28 new section on PCS renewal consideration with two subsections (new or revised  
29 product or change in applicable code and standard).

30 Cody Bartley acknowledged these were good sections but felt they remained PCS-  
31 heavy.

- 32 • Alireza Asgari confirmed that only Section Three addressed the application for  
33 project-specific prefabrication.

34 Cody Bartley asked whether the same need existed in the industry for education on  
35 OPMs.

- Ali responded that it would be good to touch on differences so that people do not pursue PCS when they should be on OPM, suggesting a brief explanation that points people in the right direction without going into the whole OPM program and process, just a scope overview of OPM.

Cody Bartley agreed to briefly mention OPM but focus mostly on PCSs and facility-specific approvals. He requested words on the OPM process from HCAI to thread into the document.

Cody Bartley then addressed the inspection section, stating he believed inspection stood alone and was not different for PCS versus project-specific. He asked the Subcommittee to challenge this if wrong.

- Scott Karpinen responded with curiosity, noting the PCS is a different animal in how inspectors are developed.

- Cody Bartley explained that even with a project-specific pre-approval, the same level of understanding with inspections is needed.

- Michael Davis agreed with Cody Bartley, stating the discussion was not about manufactured components where the IOR would not be involved (such as air handlers), as IORs typically would not go to manufacturing operations. He stated both should be the same.

Cody Bartley confirmed inspections would remain as one section in the advisory guide and noted he had added a lot of words in that section. He mentioned the fire life safety input from Nanci would be threaded into the advisory guide.

Cody Bartley discussed the vendor feedback section, stating he would summarize feedback from the three vendors as experiences with the process. He noted he had reviewed all other advisory guides and they did not highlight specific projects, so there was no precedent. He proposed moving away from calling out three specific projects, suggesting that highlighting specific projects could feel like favoritism in a formal advisory guide.

Cody Bartley confirmed he would remove the specific project examples and instead use broader examples of prefabrication. He mentioned the Q&A section at the end.

Cody Bartley addressed Belinda Young's previous question about the architect component, stating he was not seeing as heavy of a lift since the focus was on pushing vendors and manufacturers to pursue pre-approvals. He noted he would check with Belinda to make sure other parts needed reinforcement.

1 Cody Bartley then discussed the Q&A from the 2024 webinar, stating he had populated  
2 a spreadsheet with answers under his name and where he thought HCAI staff should  
3 weigh in. He requested HCAI staff feedback before the document goes out.

- 4 • Veronica Yuke asked how soon responses were needed. Cody requested a  
5 couple of weeks before the next meeting.
- 6 • Carl Newth asked about out-of-country fabricated items and whether limiting it to  
7 North America would restrict obtaining desired products.
- 8 • Arash Altoontash (HCAI) responded that technically the location could not be  
9 limited to a certain region as it did not follow the principles of a free market. He  
10 explained that fabrication can happen anywhere but is subject to inspection as  
11 required by the California Building Code, making attempts to limit geographical  
12 location moot.
- 13 • Ali Sumer added that while location could not be limited, HCAI was aware of low-  
14 quality out-of-country fabrication, with requirements being the same wherever the  
15 work is done. He cautioned about quality and noted facilities should be aware of  
16 resolutions if quality issues arise.
- 17 • Michael Davis shared an experience from his father, who was an IOR on a Hoge  
18 project where base isolators were manufactured in England. His father traveled  
19 to England and inspected them, and the processes were pretty much identical,  
20 demonstrating that out-of-country fabrication can be done successfully.

21 Cody Bartley asked Michael Davis to help elaborate on out-of-country inspection  
22 considerations in the inspection section of the white paper, and Michael Davis agreed.

23 Cody Bartley summarized his action items: thread HCAI's feedback into the process  
24 section, work with Michael Davis on out-of-country inspections, and incorporate Nanci  
25 Timmin's fire and life safety content.

- 26 • Alireza Asgari clarified the tasks were to write about OPM and provide questions  
27 and answers.
- 28 • Cody Bartley confirmed and noted the document was becoming over ten pages,  
29 so once the outline and structure were complete, the next meeting would be final  
30 review and approval.

### 31 **Subcommittee and Public Comments**

- 32 • Scott Karpinen provided agreement on focusing the document on pre-approved  
33 fabricated components and systems.
- 34 • Carl Newth asked about out-of-country fabricated items and limitations.

- Michael Davis shared his father's IOR experience with base isolators manufactured in England.
- Alireza Asgari asked clarifying questions about pre-approval scope and tasks.
- Ali Sumer provided HCAI input on facility-specific pre-approvals and OPM.
- Arash Altoontash provided HCAI input on geographical limitations.

## **Informational and Action Items**

- The document is transitioning from a white paper to an advisory guide.
- The advisory guide will focus on pre-approved fabricated components and systems, not all of prefabrication.
- The process section will be split into three components covering PCS, OPM (brief overview), and facility-specific pre-approvals.
- The inspection section will remain consolidated as one section. Specific project examples will be removed in favor of broader examples.
- Cody Bartley will thread HCAI's feedback into the process section, incorporate Nanci's fire life safety content, and develop the rest of the document.
- Michael Davis will help elaborate on out-of-country inspections.
- HCAI will provide words on the OPM process and review/respond to the Q&A spreadsheet within a couple of weeks before the next meeting.
- The next meeting will serve as final review and approval of the advisory guide.

## **5. Review Q&A from the June 25, 2024, “Preapproved Fabricated Components and Systems” webinar**

**Facilitator:** Cody Bartley, DPR Construction; Subcommittee Chair (or designee)

## **Discussion and Input**

Cody Bartley stated he had populated some answers and the next step was getting it into HCAI staff hands and aligning on the answers.

Cody Bartley walked through each question. For the first question on scope gaps and how to mitigate them, he stated this was a GC question requiring clear delineation of scope, usually shown at the shop drawing level detail, understanding the product, and handoffs required to complete install. He characterized this as a scope writing question.

On the question of scale or size that benefits from prefabrication, Cody Bartley explained each pre-approved prefabricated product has a different threshold (SurePods differs from DuraFuse steel frame system), so analysis must be project specific.

1 On the question about prefab process utilizing union labor, he stated this is not a factor  
2 in pre-approvals by HCAI but rather a project-specific labor requirement that could vary  
3 by project. Union labor is not something a pre-approval addresses.

4 On lessons learned associated with installation of prefabricated components and  
5 tolerances, Cody Bartley noted that answering without a specific product being  
6 discussed was difficult. He stated lessons learned would depend on the pre-fabricated  
7 components being discussed and would be addressed in follow-up webinars, with a  
8 request for people to reach out with specific questions.

9 On medical equipment (MEQ) changes during the design phase, Cody Bartley  
10 acknowledged MEQ tends to be updated frequently and users want the latest and  
11 greatest. He stated changes to MEQ equipment after permit approval need to be  
12 updated through the ACD process to update anchorage requirements shown in the  
13 approved drawings, noting this is a real-life scenario.

14 Cody Bartley noted the out-of-state question had already been discussed. On the  
15 question about needing a larger cohort of IORs to handle this track, he stated HCAI is  
16 actively recruiting IORs dedicated to meeting industry demands. He explained that he  
17 marked it with "HCAI Staff ?" because he was hesitant to weigh in on sensitive areas  
18 like bathrooms and air handlers, and acknowledged that HCAI had good words and a  
19 prepared answer for that.

20 On whether items need to be inspected by project, Cody Bartley stated yes, but asked  
21 HCAI to confirm. On the workload and prefabrication approach question, he responded  
22 that HCAI and IOR should be involved in the prefabrication discussion before the  
23 product arrives onsite to ensure buy-in on how it would be reviewed.

24 On shop drawing review between DPOR and offsite contractors, Cody Bartley stated  
25 DPOR should review all shop drawings regarding prefabrication. He recommended  
26 DPOR meet with any offsite contractors of prefabricated components to understand the  
27 product. He placed responsibility on the design professional of record to understand the  
28 product and what is shown in the drawings to complete the install. His advice was for  
29 DPORs to visit the facility and see the product firsthand, though he requested HCAI  
30 weigh in.

31 On continuous inspection of work, Cody Bartley acknowledged HCAI had already  
32 discussed this and had a good answer. On the question of prefab module products  
33 going through a PCS, he noted this was project-specific or facility-specific, confirming it  
34 can be done but not as a pre-approval already accepted.

35 Cody Bartley noted he had populated some answers and asked HCAI to read and  
36 wordsmith them as needed. He stated the subcommittee did not need to waste time

going through all of them and proposed exchanging emails between now and the next meeting to button up this section.

- Veronica Yuke clarified that HCAI would send directly to Cody.
  - Cody confirmed they would send directly back and stated once the spreadsheet and answers were populated, the entire finalized version would be sent to the group before the next meeting for review. He stated the next meeting would review a finalized advisory guide and finalized Q&A getting ready to publish.
- Veronica Yuke requested HBSB staff be included in the back-and-forth exchanges to maintain history of all documents.
  - Michael Davis agreed.

Cody asked Marcus Palmer if he had the printed copy.

- Alireza Asgari confirmed Evett Torres had sent the email with the attachment.

#### **Subcommittee and Public Comments**

- Veronica Yuke requested HBSB staff be included in email exchanges for document history.
- Alireza Asgari confirmed receipt of the Q&A attachment from Evett Torres.

#### **Informational and Action Items**

- HCAI will review and provide feedback on the Q&A spreadsheet that Cody Bartley has populated with answers.
- Emails will be exchanged directly between HCAI and Cody Bartle, with HBSB staff included for document history.
- Once finalized, the entire spreadsheet and answers will be sent to the group before the next meeting.
- The next meeting will review the finalized advisory guide and finalized Q&A in preparation for publishing.

### **6. Determine timeline for deliverables and schedule next meeting**

**Facilitator:** Cody Bartley, DPR Construction; Subcommittee Chair (or designee)

#### **Discussion and Input**

1 Cody Bartley stated he had most of the finalization in hand and had asked for items  
2 from a few people, acknowledging everyone was busy. He proposed targeting a next  
3 meeting at the end of June.

- 4 • Veronica Yuke and Evett Torres discussed availability, with Evett Torres noting  
5 the week of June 22nd appeared open. Cody Bartely proposed Wednesday,  
6 June 24th.
- 7 • Carl Newth stated he would be on vacation that week and unavailable.  
8 Cody Bartley asked about the week prior. Carl Newth confirmed that week would  
9 work, noting Friday was a holiday but other days were available.
- 10 • Veronica Yuke noted that there was an HBSB Committee meeting scheduled on  
11 June 18th. She proposed the 17th and confirmed the 17th would provide enough  
12 time to get the agenda out and asked whether it provided enough time for HCAI  
13 to get responses back.
  - 14 ○ Cody Bartely confirmed five to six weeks would be sufficient.

15 Cody Bartley set the next meeting for June 17th and proposed getting all questions and  
16 answers, the OPMs, and Michael Davis's section within two to three weeks to allow two  
17 weeks for incorporation.

- 18 ○ Michael Davis confirmed.
- 19 • Alireza Asgari asked for the Q&A document in Excel format instead of PDF, as it  
20 was easier to write in.
  - 21 ○ Cody confirmed he had sent the Excel previously. Evett Torres offered to  
22 resend the document, noting one version had been reformatted.
- 23 • Evett Torres asked whether the Q&A would be posted with the agenda. Cody  
24 confirmed yes. Evett Torres stated it would need to be received by June 3rd.
  - 25 ○ Cody acknowledged this gave three weeks for populated responses and  
26 asked Alireza Asgari if that felt acceptable.
    - 27 ▪ Alireza Asgari responded he would try.

28 Cody Bartley proposed that anything not completed could be brought to the next  
29 meeting for group discussion and agreement.

- 30 ○ Veronica Yuke stated it could still be brought but could not be included in  
31 pre-preliminary documents.

32 Cody Bartley confirmed June 3rd was the deadline to send the agenda. He asked  
33 whether the outline needed to be posted at the same time.

- 1           ○ Veronica Yuke confirmed June 3rd was the posting date because of the
- 2           10-day public notice requirement.
- 3       • Evett Torres clarified the agenda needed to be posted by the 5th, but the 3rd
- 4       provided enough time to remediate. She added she would need an agenda from
- 5       Cody Bartley approximately two weeks before that.
- 6       • Veronica Yuke explained the Q&As could be placed on the agenda without being
- 7       included as an attachment and could be presented at the meeting.
- 8       • Alireza Asgari asked for clarification on when responses should be sent.
- 9       Veronica Yuke responded there was wiggle room and Cody Bartley could work
- 10      with Alireza Asgari on the date, as long as it was included in the PowerPoint
- 11      before the meeting.
- 12           ○ Evett Torres clarified that if it was only to be shown at the meeting without
- 13           making it publicly available beforehand, she would need it the day before
- 14           the meeting.

15 Cody Bartely confirmed content could trickle in after June 3rd while the agenda could be  
16 set without that content. He summarized the action items and the next meeting plan.

17 Cody Bartely confirmed the next meeting would review the draft finalized version of the  
18 advisory guide and finalized Q&A, with hopes of being close to publishing after that  
19 meeting. He acknowledged the document was large with a lot to pull together and  
20 thanked everyone for their attention and participation.

## 21 **Subcommittee and Public Comments**

- 22       • Michael Davis confirmed his deliverable timeline.
- 23       • Alireza Asgari requested the Q&A in Excel format and asked for clarification on
- 24       response deadlines.
- 25       • Evett Torres clarified posting and submission timelines.

## 26 **Informational and Action Items**

- 27       • The next meeting will be held on June 17th.
- 28       • Cody Bartley will send the agenda by June 3rd to meet the 10-day public notice
- 29       requirement.
- 30       • The agenda will be posted, but the outline does not need to be posted at the
- 31       same time.
- 32       • Q&A can be placed on the agenda without being included as an attachment.
- 33       • HCAI, Michael Davis, and other contributors will provide their sections within two
- 34       to three weeks to allow two weeks for incorporation.

- Evett Torres will resend the Q&A document in Excel format. Content that is not finalized by June 3rd can be discussed at the next meeting.
- The next meeting will review the finalized advisory guide and finalized Q&A in preparation for publishing.

**7. Comments from the Public/Subcommittee Members on Issues not on this agenda. The subcommittee will receive comments from the Public/Subcommittee Members. Matters raised at this time may be taken under consideration for placement on a subsequent agenda.**

**Facilitator:** Cody Bartley, DPR Construction; Subcommittee Chair (or designee)

Cody Bartley gave one more opportunity for public or subcommittee members to make comments on items not on the agenda.

**8. Adjournment**

**Facilitator:** Cody Bartley, DPR Construction; Subcommittee Chair (or designee)

Cody Bartley thanked everyone and formally adjourned the HBSB Ad hoc How to Guide Development for Pre-Approved Fabricated Components and Systems Subcommittee meeting at 10:49 a.m.



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



**Hospital Building Safety Board  
Ad Hoc How-To-Guide Development for Preapproved  
Fabricated Components and Systems Subcommittee**

**June 17, 2026  
10:00 a.m. – 4:00 p.m.**

**Teleconference Meeting Access:**

2020 West El Camino Ave, Conference Room 930, Sacramento, CA 95833  
355 South Grand Avenue, Conference Room 2000, Los Angeles, CA 90071

**Committee Members Present**

Cody Bartley, Subcommittee Chair  
Micheal Davis  
Gary Dunger  
Scott Karpinen  
Carl Newth  
Belinda Young

**HCAI Staff Present**

Arash Altoontash  
Alireza Asgari

**HBSB Staff Present**

Veronica Yuke, Executive Director  
Rajveer Dhaliwal  
Marcus Palmer  
Evet Torres

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

2 **Facilitator:** Cody Bartley, DPR Construction; Subcommittee Chair (or designee)

3 Cody Bartley called the HBSB Ad-hoc Subcommittee on How-to-Guide Development for  
4 Pre-Approved Fabricated Components and Systems meeting to order on June 17,  
5 2026, at 10:00 AM.

6

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

8 **Facilitator:** Veronica Yuke, HCAI; HBSB Executive Director (or designee)

Veronica Yuke conducted roll call and established a quorum. She advised that any voting during the meeting would be conducted through roll call by the Executive Director.

### **3. Review and approve the draft May 6, 2026, meeting report/minutes**

**Facilitator:** Cody Bartley (or designee)

#### **Discussion and Input**

Cody Bartley led the review of the draft May 6, 2026, meeting report. He recapped the prior meeting's content, noting that the subcommittee was moving from an informal white paper to an advisory guide and that the advisory guide would focus on pre-approved fabricated components and systems rather than all prefabrication. He explained that PCS and the OPM would be addressed.

Cody Bartley noted the discussion of fire life safety content and his action item to thread that into the outline. He stated that the prior meeting had asked to elaborate on the out-of-country inspection sections, that HCAI was providing words on the OPM process and helping respond to the Q&A spreadsheet, and that the subcommittee had hoped the prior meeting would serve as the final review and approval of the advisory guide because they were getting close. He recalled that the subcommittee reviewed the Q&A from the June 25, 2024, Preapproved Fabricated Components and Systems webinar, that he had populated some answers, and that there was an action item to circulate the spreadsheet with HCAI staff and complete the remaining answers. He noted the spreadsheet had been sent out before the present meeting and would be covered again today.

#### **Subcommittee and Public Comments**

- None

#### **Voting**

Motion to approve the May 6, 2026, Ad Hoc How-To-Guide Development for Preapproved Fabricated Components and Systems Subcommittee meeting report.

- **Motion:** Cody Bartley
- **Second:** Carl Newth
- **Outcome:** Motion passes unanimously, with no abstentions.

### **4. Review and discuss proposed Advisory Guide outline**

**Facilitator:** Cody Bartley (or designee)

## Discussion and Input

Cody Bartley walked the subcommittee through the populated outline on screen, reminding members that the content still needed to be moved into the advisory guide format. He noted the definitions had not changed since the last meeting and matched those covered in the webinar. He stated the PCS section was now covered using words supplied by Alireza Asgari via email. He proposed removing website snapshots from the final guide and keeping it to words with a link to the documents, citing document length. He explained that the process-to-use-pre-approvals-in-the-drawings section also came from Alireza Asgari and that he had included a workflow showing how to apply a PCS to a project. He described breaking the OPM facility-specific prefabrication process into a flow chart to show the benefits of project-specific versus pre-approvals, noting the overall goal of driving more pre-approvals. He credited Alireza Asgari for the PCS renewal considerations language and stated the inspection process section (onsite, offsite, and manufacturers) had not changed much and would be moved into a final Word document.

- On the out-of-country inspection section, Michael Davis explained that inspection for prefabricated components is the same as inspection on a job, with the TIO provided by the design professionals serving as the driving force for how often and at what intervals the IOR performs inspections, whether in or out of country, and that all inspection practices match those in the "Tips From the Experts" reference. He recommended referencing that guide rather than duplicating the effort.
- Cody Bartley asked Michael Davis to address how an IOR or special inspector gets approved out of the country, whether IORs are flown over or a local inspector can be certified.
- Michael Davis responded that the IOR would be flown over if specific observation is needed, or special inspection could be farmed out through the testing lab's arrangements with inspectors worldwide, as long as they are approved on the TIO. Gary Dunger offered to help with the section, citing his current Cedar Sinai project manufacturing seismic friction dampers for an SPC 4D retrofit in New Zealand, where local inspectors are being identified through a process that begins with the design professional and architect or engineers and obtains OSHPD buy-in.
- Cody Bartley asked Gary Dunger and Michael Davis to jointly write up the section.
- Alireza Asgari explained that OSHPD Policy Intent Notice 58 pre-approves test and special inspection, that qualification standards such as ASCM/ASTM apply worldwide, and that inspectors qualify by submitting their qualifications into an

1 automatic system that tracks who is approved for what type of inspection, inside  
2 or outside the U.S.

- 3 • Cody Bartley confirmed the section would reference PIN 58 and identified it as a  
4 gap still needing development.

5 On the fire and life safety section, Cody Bartley stated the content came from Nanci  
6 Timmins, that it was several pages, in-depth, and largely composed of considerations,  
7 and asked HCAI for help condensing it because he was not comfortable cutting fire life  
8 safety content himself. He noted he wanted to keep Nanci Timmins's checkboxes and  
9 outline.

- 10 • Scott Karpinen asked about the review process.
- 11 • Cody Bartley explained the outline and the draft advisory guide Word document  
12 would be emailed out for a feedback period, followed by another meeting, with  
13 Veronica Yuke adding that HCAI would also conduct a final in-house review.
- 14 • Gary Dunger offered to review and tighten the fire and life safety section given  
15 his background.
- 16 • Scott Karpinen suggested using a Bluebeam Studio session for a single live  
17 markup document. After discussion of the two-person collaboration limit (serial),  
18 with Belinda Young and Veronica Yuke noting only two board members at a time  
19 but that HCAI staff do not count against that limit.
- 20 • Cody Bartley proposed inviting Gary Dunger and Scott Karpinen as primary  
21 reviewers with HCAI staff, then opening a separate Bluebeam session for  
22 Belinda Young and himself before the next meeting.
- 23 • Gary Dunger suggested incorporating the eTIO program, but Cody Bartley  
24 recalled that Ali Sumer had previously advised against covering it, while noting  
25 an advisory guide can be updated after release.

26 On vendor feedback, Cody Bartley proposed referencing the prior meeting report rather  
27 than re-summarizing each vendor's multi-page feedback.

- 28 • Scott Karpinen and Belinda Young supported keeping the document from  
29 growing too long, and suggested including the feedback via a link.
- 30 • Belinda Young raised whether including vendor-specific names posed any issue.
- 31 • Cody Bartley explained they would be shown only as examples without  
32 elaborating, since the vendors presented publicly and the meeting minutes are  
33 public, and that HCAI staff review would flush out any concerns.

34 Cody Bartley described the Q&A section as containing all 24 questions from the 2024  
35 webinar with answers coordinated between him and HCAI, to be sent out for review  
36 rather than read aloud.

Cody Bartley then shared a draft Word document converting the outline into advisory guide format, including a short introduction, a comparison table contrasting PCS and project-specific fabrication (scope, flexibility, approval, risk, and use), the key definitions section, the PCS and OPM sections, the pre-approval drawings workflow diagram, the facility-specific fabrication process, PCS renewal considerations, the inspection process and TIO development in bullet form, the out-of-country and vendor manufacturer inspection sections, the fire life safety section kept in bullet format for further review, the vendor feedback link, and the Q&A section. He stated the document was about 21 pages.

- Belinda Young recommended redacting some of the fire life safety content as overweighted relative to architectural and structural topics and ensuring applicability to the prefab component piece specifically.
- Belinda Young also asked about graphics
- Cody Bartley reported that Copilot had given similar feedback recommending visual process maps, a PCS workflow, the comparison table, and an inspection TIO workflow.

Discussion followed on whether HCAI had an existing inspection workflow diagram, with Michael Davis offering to build a simple one and Arash Altoontash stating he was not aware of a published flow chart but would research it. Alireza Asgari elaborated on the PCS-versus-project-specific distinction, explaining that a PCS must be generic enough to apply across many projects (giving the example of a SurePod rectangular bathroom pod) while project-specific prefabrication accommodates unique shapes or modifications required by a particular project.

- Belinda Young shared offsite prefab inspection process workflow charts her team developed for a project with material ID, which Cody Bartley said matched what they were looking for.

Cody Bartley ended stating he would place the content into the template, send it out with the meeting report (with a two-week wait agreed with Veronica Yuke and Belinda Young to allow the out-of-state inspection section to be developed before the Bluebeam session), and set up the Bluebeam review process.

### **Subcommittee and Public Comments**

- No additional

### **Informational and Action Items**

- Gary Dunger and Michael Davis to jointly write up the out-of-country inspection section and copy Cody Bartley, referencing PIN 58.

- Cody Bartley to merge the out-of-country inspection content into the guide and reference PIN 58 in that section.
- Gary Dunger to review and condense the fire and life safety section.
- Cody Bartley to place the content into the advisory guide template and apply HCAI/OSHPD formatting and logos before distribution, and to change the font from 11 to 12 point.
- Cody Bartley to send the outline and draft advisory guide Word document out with the meeting report, with distribution to wait approximately two weeks to allow development of the out-of-state inspection section.
- HCAI staff to provide the formatting template to Cody Bartley.
- A Bluebeam Studio review session to be set up with Gary Dunger and Scott Karpinen as primary reviewers alongside HCAI staff, followed by a separate session for Belinda Young and Cody Bartley, then a final meeting to review incorporated comments.
- Arash Altoontash to research whether HCAI has a published inspection workflow/process diagram and report back.
- Belinda Young to share her team's offsite prefab inspection process workflow charts as a reference.
- Vendor feedback to be included by linking to the prior meeting minutes rather than re-summarizing.

## **5. Determine timeline for deliverables and next meeting date**

**Facilitator:** Cody Bartley

### **Discussion and Input**

Cody Bartley led the subcommittee in building out a deliverables timeline, working around the July holiday. He set Monday, July 6th as the date for all content to be sent to him, with members sending material to HCAI staff and copying him. He allotted two weeks for Gary Dunger and Michael Davis to provide their material, two weeks for him to assemble it, and two weeks for cleanup, placing completion at July 20th. He scheduled the start of the first Bluebeam session for July 24th, allowing a week to get it posted and live, followed by a three-week comment period for HCAI staff, Gary Dunger, and Scott Karpinen, ending August 14th.

- In response to Scott Karpinen confirming the revision flow, Cody Bartley built in a week for revisions (August 14th to 21st), then a second Bluebeam session for Belinda Young and himself running to September 4th, followed by a week to clean up.

Cody Bartley and Veronica Yuke then worked through meeting dates. Noting the September 7th holiday and the requirement that the document be posted two weeks before a meeting, they ruled out earlier September dates.

Cody Bartley recapped the full sequence, two weeks to finalize content, two weeks for him to incorporate it, a week to post the Bluebeam session live, three weeks for HCAI staff, Gary Dunger, and Scott Karpinen to review, a week to incorporate comments, a second two-week Bluebeam session for Belinda Young and himself, a week of cleanup, and three weeks for everyone to digest the final version before the September 30th meeting, after which the document would proceed through the legal process before posting. He remarked that the effort had covered a lot of ground over several months and expressed his goal of getting the document across the finish line.

## **Subcommittee and Public Comments**

- No additional

## **Informational and Action Items**

- All content due to Cody Bartley (sent to HCAI staff, copying him) by Monday, July 6th.
- Gary Dunger and Michael Davis to provide their material within the content-finalization window; Cody Bartley to assemble and clean up content by July 20th.
- First Bluebeam session to start July 24th, with a three-week comment period (HCAI staff, Gary Dunger, Scott Karpinen) ending August 14th; Cody Bartley to incorporate revisions by August 21st.
- Second Bluebeam session for Belinda Young and Cody Bartley running through September 4th, followed by a week of cleanup.
- Final version to be distributed approximately three weeks ahead of the meeting and posted two weeks in advance.
- Next meeting set for Wednesday, September 30th (with Ken available to step in for Veronica Yuke if needed).
- Document to proceed through the legal/approval process before public posting.

**6. Comments from the Public/Subcommittee Members on Issues not on this Agenda.** The Subcommittee will receive comments from the Public/Subcommittee Members. Matters raised at this time may be taken under consideration for placement on a subsequent agenda.

**Facilitator:** Cody Bartley (or designee)

## **Discussion and Input**

1 Cody Bartley opened for comments from the public and subcommittee members on  
2 issues not on the agenda.

3 **Subcommittee and Public Comments**

- 4 • None.

5 **Informational and Action Items**

- 6 • None.

7

8 **7. Adjournment**

9 Cody Bartley thanked attendees for joining and expressed his anticipation of finalizing  
10 the content and publishing the advisory guide, noting it was an exciting moment and  
11 expressing hope that it would help the industry. He formally adjourned the meeting at  
12 11:00 a.m.

# Ad Hoc Educational Opportunities to Advance Structural Health Monitoring by Hospitals Subcommittee of the Education and Outreach Committee

---

Draft Meeting Report/Minutes

March 26, 2026



This page left intentionally blank.



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



**Hospital Building Safety Board  
Ad Hoc Educational Opportunities to Advance Structural Health  
Monitoring by Hospitals Subcommittee**

**March 26, 2026  
10:00 a.m. – 12:00 p.m.**

**Meeting Locations:**

2020 West El Camino Ave, Conference Room 930, Sacramento, CA 95833  
355 South Grand Avenue, Conference Room 1901, Los Angeles, CA 90071

**Subcommittee Members Present**

Martin Hudson, Subcommittee Chair  
Courtney Johnson, Subcommittee Vice-Chair  
Janice Cheung  
Jim Malley  
Farzad Naeim

**HCAI Staff Present**

Richard Tannahill  
Roy Lobo

**HBSB Staff Present**

Veronica Yuke, Executive Director  
Evet Torres  
Marcus Palmer

- 1 **1. Call to Order and Welcome**
- 2 **Facilitator:** Martin Hudson, PhD, PE, GE, Principal Geotechnical Engineer, Hudson
- 3 Geotechnics, Inc.; Subcommittee Chair
- 4 Martin Hudson called the HBSB Ad Hoc Educational Opportunities to Advance
- 5 Structural Health Monitoring by Hospitals Subcommittee meeting to order on March 26,
- 6 2026, at 10:00 a.m.
- 7 **2. Roll Call and Meeting Advisories/Expectations**
- 8 **Facilitator:** Veronica Yuke, HCAI; HBSB Executive Director (or designee)
- 9 Veronica Yuke conducted roll call and established a quorum present. She then
- 10 reviewed the meeting expectations.

1 **3. Review and approve the draft January 29, 2026, meeting report/minutes**

2 **Facilitator:** Martin Hudson, PhD, PE, GE, Principal Geotechnical Engineer, Hudson  
3 Geotechnics, Inc.; Subcommittee Chair

4 **Discussion and Input**

5 Martin Hudson introduced item number three and directed that the January 29, 2026,  
6 meeting report and minutes from the prior ad hoc Subcommittee meeting be displayed.  
7 He provided a detailed summary of the prior meeting minutes. He stated that the same  
8 five Subcommittee members who attended the prior meeting were also present at the  
9 current meeting, along with HCAI staff and hospital safety board staff.

10 He reviewed the prior agenda items, beginning with the call to order, roll call, and the  
11 Subcommittee's first discussion of its purpose and objectives. He stated that the three  
12 objectives included: evaluating whether to rewrite or issue an addendum to the prior  
13 white paper on instrumentation; advancing the prior white paper with more recent  
14 implementations; and enhancing accessibility to the white paper through various means.

15 He stated that Farzad Naeim had emphasized the educational focus of the ad hoc  
16 subcommittee and that, for that reason, the subcommittee formally operated as part of  
17 the education Subcommittee.

18 He then summarized the prior review of the instrumentation Subcommittee meeting and  
19 noted that Courtney Johnson had reviewed the prior action item from that  
20 Subcommittee. He explained that he had previously summarized the white paper and its  
21 key points. He stated that Roy Lobo had emphasized that no data can be obtained from  
22 an instrumented building unless the building is actually instrumented, noting that only a  
23 small percentage of buildings currently are. He stated that this point was included in the  
24 white paper and supported the need for the outreach subcommittee.

25 He further stated that Wendy Bohon, from CGS, had suggested developing a second,  
26 shorter summary document to improve outreach, and he emphasized that this topic  
27 would be part of the current meeting's discussion.

28 Martin Hudson then reviewed prior informational and action items, stating that the  
29 subcommittee had discussed both supplementing and potentially rewriting the white  
30 paper.

31 He next summarized item number four from the prior meeting, in which Courtney  
32 Johnson had reviewed the objective adopted at the December 2025 full board meeting:  
33 to develop educational opportunities to advance the utilization of structural health  
34 monitoring by hospitals using seismic instrumentation. He stated that this objective  
35 represented the subcommittee's principal focus.

36 He stated that the subcommittee had discussed this objective extensively, with input  
37 from Farzad Naeim, Jim Malley, Janice Cheung, Roy Lobo, and others. He stated that  
38 Courtney Johnson had summarized the Subcommittee's consensus on three

1 deliverables: a public-facing summary document, a webinar series, and an addendum to  
2 the white paper including recent case studies. He stated that the subcommittee had  
3 therefore concluded that both an addendum and a summary document would be  
4 developed, along with the webinar series.

5 He then reviewed prior assignments. He stated that he had volunteered to draft the  
6 summary portion for distribution. He stated that Jim Malley had offered to prepare a first  
7 draft of a how-to guide. He stated that Courtney Johnson had volunteered to begin  
8 outlining the webinar structure, and that Janice Cheung had volunteered to support  
9 content development.

10 He also summarized prior discussion regarding stakeholder engagement, noting that  
11 the subcommittee had agreed to identify and engage stakeholders rather than develop  
12 materials in isolation.

13 He then reviewed the prior schedule and planning discussion, stating that the  
14 subcommittee had planned to hold a meeting before the April full board meeting, and  
15 noted that the present meeting fulfilled that objective.

16 He concluded his summary by noting that there had been no public comments and no  
17 overall comments at the prior meeting before adjournment. He then asked whether  
18 there was any discussion from subcommittee members regarding approval of the  
19 minutes.

20 Veronica Yuke instructed him that he needed to request a motion to approve the  
21 minutes.

## 22 **Subcommittee and Public Comments**

- 23 • No comments were made by members of the public for this agenda item.

## 24 **Voting**

25 Motion to approve the January 29, 2026, draft meeting report/minutes.

- 26 • **Motion:** Janice Cheung
- 27 • **Second:** Farzad Naeim
- 28 • **Outcome:** Motion passed unanimously.

## 29 **Informational and Action Items**

- 30 • The Subcommittee reviewed the January 29, 2026 draft meeting report/minutes.
- 31 • The Subcommittee approved the minutes by unanimous roll call vote.
- 32 • The approved prior action items and deliverables remained the guiding  
33 framework for the current meeting discussion.

#### 4. Guidance for Implementing Seismic Instrumentation Programs for Post Earthquake Response

**Facilitator:** Evan Reis, SE, Executive Vice President and Director of Science and Analytics, Safehub, Inc. (or designee)

##### Discussion and Input

Evan Reis stated that he would speak about SafeHub's experience and the reasons the company developed its technology. He explained that he is a structural engineer and that both he and SafeHub's founder, Andy Thompson, have post-earthquake response and inspection experience.

He described a hospital example from the Turkey earthquake in which damage to a non-structural tile infill wall caused nurses to refuse to work in the space until someone confirmed the building was safe. He stated that the hospital was effectively shut down until engineers confirmed that the damage was non-structural. He said this example showed that post-earthquake response often begins with perception and that hospitals need rapid information about whether buildings are safe, whether they should remain operational, whether they should be evacuated, or whether engineers should prioritize them over other buildings.

Evan Reis then described examples from the United States. He stated that a city hall building in the Northridge earthquake did not initially appear badly damaged, but later inspection found significant cracking in steel moment frame welds. He also described a hospital evacuation during the 2019 Ridgecrest earthquake, stating that people were evacuated because of concern over intense shaking even though the hospital ultimately did not have significant damage. He said that moving patients in wheelchairs, on oxygen, or on life support can itself create dangerous conditions. He added that Jim Malley had told him about a hospital in Southern California during the Northridge earthquake where patients died after evacuation. He stated that these examples showed that good situational awareness for critical infrastructure can affect both operations and life safety.

He then discussed the 2017 Puebla earthquake in Mexico and explained that nearby buildings can experience very different levels of damage despite close proximity and similar general conditions. He said that maps such as USGS ShakeMap provide regional estimates of shaking based on prediction equations, but actual site conditions can vary significantly. He explained that only site-specific instrumentation can determine actual shaking intensity at a building of interest.

Evan Reis described the sensor technology used by SafeHub. He contrasted traditional force-balance sensors, which he said are expensive, complex, often require bolting to concrete slabs, hardwiring, and ongoing maintenance, with newer MEMS-based sensors. He stated that the newer sensors are compact, solid-state devices about the size of an iPhone, can be installed by screwing them to a wall and plugging them into a standard outlet, and use cellular communication rather than a building's IT network.

1 He explained that the sensors record triaxial acceleration during an earthquake. He  
2 stated that a sensor is typically placed at the base of a building and that additional  
3 sensors may be installed on multiple floors or in multiple locations depending on  
4 building height and complexity. He said the system converts the measured data into  
5 response spectra, compares it to building-specific vulnerability functions, estimates  
6 expected damage, and sends alerts to clients.

7 He stated that the alerts are typically sent by text and email within about two minutes  
8 and are presented in a simple green, yellow, and red format. He explained that clients  
9 can then access a platform showing all affected buildings, zoom in to individual  
10 buildings, and review waveforms, response spectra, absolute displacement measures,  
11 and floor acceleration data. He said this information can help clients prioritize  
12 inspections and can also help evaluate potential damage to equipment such as chillers  
13 and boilers.

14 Evan Reis explained that vulnerability functions are developed using building  
15 characteristics such as structural system, material, age, and number of stories. He  
16 stated that hospitals in California often have substantial prior engineering analysis from  
17 SB 1953 and related work, and that these analyses can improve building-specific  
18 vulnerability functions. He also stated that some clients provide their own vulnerability  
19 functions based on engineering studies.

20 He explained that SafeHub had tested its sensors at the University of California San  
21 Diego and UC Berkeley and that comparisons with other sensor systems had shown  
22 favorable results. He stated that the focus is on the range of periods and shaking  
23 intensities that matter for building damage and post-earthquake response rather than on  
24 very small vibrations.

25 Evan Reis then discussed insurance. He stated that earthquake insurance is difficult  
26 and expensive to obtain and that claims can take months or years to resolve. He said  
27 that hospitals may need immediate cash after an earthquake for overtime, temporary  
28 facilities, power, water, and other urgent needs. He explained that SafeHub works with  
29 insurance companies on parametric insurance, which uses measured shaking intensity  
30 at a site to trigger payouts more quickly. He described an example from Southern  
31 California in which SafeHub's sensors showed shaking intensities that differed from the  
32 ShakeMap depiction, and he said the added instrumentation provided a more accurate  
33 picture for both response and insurance purposes.

34 He stated that the University of California uses a large parametric insurance policy for  
35 rapid post-earthquake funding and that several healthcare facilities at UCLA, UC Davis,  
36 and UCSF have sensors. He also stated that SafeHub has approximately 80 hospital  
37 buildings in California with sensors through UC, Sutter Health, and Kaiser, and that the  
38 Veterans Administration has instrumented about 80 hospitals nationwide.

39 After the presentation, Martin Hudson opened discussion with the subcommittee. He  
40 stated that he was thinking about how to orient this information toward educating

1 hospital owners and how it could be incorporated into the Subcommittee's products,  
2 including webinars and a summary paper. He said hospital owners would likely focus on  
3 what a green, yellow, or red alert means in practical terms, including whether to  
4 evacuate a hospital. He stated that the Subcommittee needs to discuss these questions  
5 in its educational materials.

- 6 • Martin Hudson asked Evan Reis whether the Subcommittee could use images  
7 from the presentation, such as phone notifications and sensors attached to walls,  
8 in its educational materials as examples of commercially available technology.

- 9 ○ Evan Reis responded that the subcommittee could use the images and  
10 that SafeHub would be happy to allow their use so long as the  
11 subcommittee remained respectful of the public nature of the process and  
12 did not promote one specific technology.

- 13 • Martin Hudson then asked about the distinction between correlated damage  
14 assessment and direct structural measurement. He said that, if the subcommittee  
15 can tell potential users that instrumentation directly measures possible damage,  
16 that may be more persuasive than saying the system provides only a correlation  
17 of what may have occurred.

- 18 ○ Evan Reis responded that clients often struggle to understand technical  
19 engineering metrics and that communication must be simple without  
20 becoming simplistic. He stated that even quantities such as period change  
21 or interstory drift still require correlation to damage and that there is no  
22 real substitute for correlating measurements to likely damage in a  
23 technically sound way.

- 24 • Martin Hudson said that the subcommittee would need to address the potential  
25 loss of confidence if users see visible non-structural damage, such as cracked  
26 partition walls or ceiling tile damage, while the system indicates green.

- 27 ○ Evan Reis responded that clients must have a post-earthquake response  
28 plan in place and that they cannot rely only on a color scheme. He stated  
29 that building owners, their structural engineers, and HCAI should develop  
30 protocols that determine what actions correspond to each alert level. He  
31 explained that one hospital may choose evacuation at one threshold, while  
32 another may use a yellow alert to activate its response network without  
33 evacuating.

- 34 ■ Martin Hudson responded that the subcommittee's educational  
35 materials may need to focus more on post-earthquake response  
36 planning informed by instrumentation. He stated that instrumentation  
37 should not be presented as the entire response system, but rather as a  
38 tool that provides valuable information within a proper response plan.

- 1 • Jim Malley commented that the hospital Evan Reis had mentioned was a VA  
2 hospital in Palo Alto and not an HCAI facility. He agreed that the post-earthquake  
3 plan is the ultimate objective and stated that onsite facilities staff and engineering  
4 staff who are present at all times need training so they know what to do before  
5 outside engineers or HCAI staff arrive. He said instrumentation can improve  
6 confidence in immediate response decisions.
- 7 • Roy Lobo commented that it was impressive that so many SafeHub sensors are  
8 already deployed. He asked whether the damage alerts are adjusted for building  
9 type and whether a hospital designed to a higher category would receive a  
10 different damage assessment from another building.
  - 11 ○ Evan Reis responded that two factors determine the alert: the building-  
12 specific vulnerability function and the threshold between green, yellow,  
13 and red. He explained that a building's age, structural system, and design  
14 characteristics affect the vulnerability function and that thresholds can also  
15 be adjusted for a client's needs and occupancy type.
- 16 • Roy Lobo then asked whether any earthquakes had produced yellow or red  
17 alerts that were later confirmed by inspection.
  - 18 ○ Evan Reis responded that SafeHub had seen many green alerts and  
19 some yellow alerts in Taiwan and Japan for office buildings. He stated that  
20 clients inspected those buildings and found some damage in elevators,  
21 and that those clients later said the alerts were appropriate. He stated that  
22 SafeHub had not yet experienced any red alerts.
- 23 • Courtney Johnson commented that the presentation highlighted the usefulness of  
24 instrumentation for portfolios of buildings. She stated that hospital owners with  
25 many buildings could use the information to compare buildings and prioritize  
26 inspections and post-earthquake actions.
  - 27 ○ Evan Reis responded that Sutter Hospital would be a useful example  
28 because it has many instrumented hospitals in Northern California and  
29 uses the system to determine where engineers should go first. He also  
30 stated that hospitals within a campus or across multiple campuses often  
31 vary significantly in age and configuration, making prioritization important.
- 32 • Farzad Naeim indicated that he did not have a comment.

33 Martin Hudson thanked Evan Reis for the presentation and stated that the  
34 subcommittee needs to understand the technology well if it is going to educate others  
35 about it.

### 36 Subcommittee and Public Comments

- 37 • Martin Hudson commented that the subcommittee's educational materials should  
38 help hospital owners understand what green, yellow, and red alerts mean and

1 how instrumentation should be used within post-earthquake response planning.  
2 He also asked about using presentation images in subcommittee materials and  
3 raised concerns about how to explain correlated damage assessment versus  
4 direct measurement.

- 5 • Jim Malley commented that the subcommittee should focus on educating hospital  
6 owners about post-earthquake response planning and the need to train onsite  
7 facilities and engineering staff to make immediate decisions before outside  
8 engineers arrive.
- 9 • Roy Lobo asked whether alert levels are adjusted based on building type and  
10 design characteristics and later asked whether yellow or red alerts had been  
11 confirmed through post-earthquake inspections.
- 12 • Courtney Johnson commented that instrumentation appears especially useful for  
13 owners with portfolios of hospital buildings because it can help prioritize  
14 inspections and response efforts across multiple facilities.

#### 15 **Informational and Action Items**

- 16 • The subcommittee discussed using examples from the presentation in future  
17 educational materials.
- 18 • The subcommittee discussed framing instrumentation as a tool that informs post-  
19 earthquake response planning rather than replacing that planning.

### 21 **5. Draft Video by California Geological Survey on the Importance of** 22 **Instrumentation in Hospitals**

23 **Facilitator:** Courtney Johnson (or designee)

#### 24 **Discussion and Input**

25 Courtney Johnson introduced agenda item number five and stated that she would  
26 present a draft video prepared by the California Geological Survey on the importance of  
27 instrumentation in hospitals. She explained that Wendy Bohon, a member of the  
28 subcommittee, was unable to attend but had provided both the video link and an  
29 introduction, along with specific areas where she was seeking subcommittee feedback.

30 She stated that the video remained an unfinished draft and that CGS wanted the  
31 subcommittee's initial reactions before continuing production. She explained that CGS  
32 specifically wanted feedback on whether the video was moving in the right direction,  
33 whether anything important was missing, and whether the subcommittee had additional  
34 thoughts or recommendations.

35 Courtney Johnson then read Wendy Bohon's introduction into the record. She stated  
36 that the California Geological Survey was working with Earth Science Animated to  
37 create short informational videos about critical topics related to seismic safety and

1 resilience in California. She stated that one of the selected topics was the importance of  
2 seismic instrumentation in healthcare facilities and that CGS believed this topic  
3 supported the goals of both HCAI and CGS.

4 She stated that the video was created using information and text from the white paper  
5 on seismic instrumentation of healthcare facilities. She explained that the goal of the  
6 video was to introduce the basics of why instrumenting healthcare facilities is important  
7 and how that information is used to improve seismic resilience before, during, and after  
8 earthquakes.

9 She further stated that the intended audience was broad and included the public,  
10 hospital owners and managers, and other interested parties. She noted that future  
11 videos could be developed for more specific audiences and focused issues. She also  
12 stated that CGS wanted to keep the final video under three and a half minutes.

13 The draft video was then shown. The video described California's earthquake  
14 environment, referenced historical hospital damage during the 1971 San Fernando  
15 earthquake and the 1994 Northridge earthquake, and emphasized the importance of  
16 keeping hospitals safe and functional after earthquakes. The video posed several key  
17 questions regarding hospital safety, including structural safety, non-structural systems,  
18 equipment use, continued operation, and possible evacuation. It then explained that  
19 seismic instrumentation can provide important information regarding structural response  
20 and behavior and noted that since 1989, CGS and HCAI had collaborated to install  
21 seismic instruments in over 90 hospitals and healthcare facilities statewide. The video  
22 ended abruptly because it remained incomplete.

- 23 • Martin Hudson commented that the video should include a brief discussion of  
24 how devastating hospital evacuations can be to functionality and patient care and  
25 stated that this would strengthen the explanation of why improved understanding  
26 of building performance is important.
- 27 • Roy Lobo commented that one of the images shown represented a Kaiser  
28 medical office building rather than a hospital and suggested that an image of a  
29 hospital, such as St. John's, might better support the intended message.
- 30 • Jim Malley agreed with Roy Lobo and questioned the use of an image of a 1933  
31 Long Beach unreinforced masonry building, stating that it was too old and not  
32 representative of current hospital buildings in California. He stated that the video  
33 should include more modern examples of hospital damage. He also emphasized  
34 that the video should connect instrumentation to the larger picture of overall  
35 hospital preparedness and the hospital's role in the post-earthquake response of  
36 the broader region. He further stated that the video should reinforce that  
37 evacuation should occur only when absolutely necessary.
- 38 ○ Courtney Johnson commented that the video's section listing key  
39 questions after an earthquake was well structured and touched on many

1 of the important issues. She stated that the video should continue to focus  
2 on answering the “why” behind those questions and delivering clear key  
3 takeaways to the public audience.

- 4 • Jim Malley then commented that he was unsure whether the video’s length  
5 should remain limited to approximately two to four minutes and stated that CGS’s  
6 animation team would likely be better positioned to determine how much detail  
7 can be effectively included without losing audience engagement.
- 8 ○ Courtney Johnson summarized that the comments constituted the  
9 subcommittee’s initial feedback and stated that Wendy Bohon would  
10 hopefully attend the next meeting so the subcommittee could discuss the  
11 next draft and the desired level of detail more fully.

## 12 Subcommittee and Public Comments

- 13 • Martin Hudson commented that the video should address the consequences of  
14 hospital evacuation and why better building performance information is essential  
15 for post-earthquake decision-making.
- 16 • Roy Lobo commented that the imagery should better reflect actual hospital  
17 facilities and suggested replacing the medical office building image with a  
18 hospital image.
- 19 • Jim Malley commented that older images, such as the 1933 unreinforced  
20 masonry building, should be replaced with more modern and relevant examples.  
21 He also emphasized that the video should connect instrumentation to hospital  
22 preparedness, regional emergency response, and minimizing unnecessary  
23 evacuation.
- 24 • Courtney Johnson commented that the questions posed in the video were  
25 effective and that the next draft should focus on clearly answering those  
26 questions for the intended audience.

## 27 Informational and Action Items

- 28 • The subcommittee provided initial feedback on the CGS draft video.
- 29 • Courtney Johnson stated that the subcommittee’s comments would be relayed  
30 back to Wendy Bohon and CGS for continued development.

## 32 6. Updates, Progress, and Needs for Planned Deliverables

33 **Facilitator:** Courtney Johnson (or designee)

## 34 Discussion and Input

1 Courtney Johnson stated that the subcommittee would receive brief updates on the  
2 planned deliverables, including the two-page summary, the how-to guide, and the  
3 webinar outlines, as well as identify any needs for additional resources or input.

4 She first asked Martin Hudson to provide an update on the two-page summary.

- 5 • Martin Hudson stated that he had completed his personal first draft of the two-  
6 page summary. He stated that, based on the day's discussion, he would make  
7 edits and then send the revised draft to all subcommittee members through  
8 Veronica Yuke for review so that the subcommittee could discuss it further at the  
9 next meeting.

10 Courtney Johnson then asked Jim Malley for an update on the how-to guide.

- 11 • Jim Malley stated that he had not made substantial progress and acknowledged  
12 that he had lost track of the assignment until earlier in the week. He stated,  
13 however, that he had reviewed how-to guides previously developed by OSHPD  
14 for other topics in order to understand their format and structure. He stated that  
15 he had not yet begun drafting in depth, but committed to making progress before  
16 the next meeting and stated that he would share a draft with Veronica Yuke if  
17 completed.

- 18 ○ Courtney Johnson responded that this still represented forward progress  
19 and stated that the subcommittee's recent educational discussions and  
20 presentations were important prerequisites for development of both the  
21 how-to guide and the webinar outlines.

22 She then provided an update on the webinar outlines. She stated that she was in a  
23 similar position to Jim Malley and was continuing to process the information presented  
24 at recent subcommittee meetings. She stated that she was working from the initial  
25 outlines previously developed from the instrumentation white paper and was  
26 incorporating new information from the recent presentations and educational  
27 discussions. She stated that the day's discussions had already identified additional  
28 points that would modify the webinar outline and stated that she would aim to prepare  
29 an outline that could be presented or shared before the next meeting.

30 Courtney Johnson then addressed subcommittee needs. She stated that one of the  
31 subcommittee's primary remaining needs was input from hospital owners and  
32 administrators so that the deliverables could be made as useful and practical as  
33 possible for their intended audience.

- 34 • Martin Hudson responded that, rather than asking stakeholders broad open-  
35 ended questions, it may be more productive to first prepare draft materials and  
36 then present those materials to selected partners connected to HCAI. He stated

1 that stakeholders could then provide more focused feedback on what they need  
2 and what improvements should be made.

- 3 ○ Courtney Johnson agreed and stated that using draft materials would  
4 likely lead to more fruitful discussions than beginning with open-ended  
5 questions alone.

- 6 • Jim Malley then asked Roy Lobo how much interaction HCAI has with hospital  
7 facilities regarding their own post-earthquake response plans.
- 8 • Roy Lobo stated that Hussain Bhatia serves as the incident commander and that  
9 HCAI field staff contact hospital administrators immediately following an event to  
10 coordinate site visits and inspections. He stated that if a hospital is triggered for  
11 inspection, HCAI staff go to the facility and tag the buildings. He stated, however,  
12 that he did not believe there was any regular pre-event coordination with  
13 hospitals regarding their response plans, though he said he could verify that.
- 14 • Jim Malley responded that the how-to guide should strongly recommend that  
15 hospitals share their post-earthquake response plans with HCAI so that HCAI  
16 can provide input on how the plans should align with inspection and tagging  
17 procedures.
- 18 • Roy Lobo agreed that this was a good point.

#### 19 **Subcommittee and Public Comments**

- 20 • Martin Hudson commented that draft deliverables should be shared with selected  
21 HCAI-connected stakeholders so that the subcommittee can obtain focused  
22 feedback.
- 23 • Jim Malley commented that the how-to guide should recommend that hospital  
24 facilities share their post-earthquake response plans with HCAI.
- 25 • Roy Lobo commented on HCAI's current post-event contact procedures with  
26 hospital administrators and acknowledged that pre-event coordination may be  
27 limited.

#### 28 **Informational and Action Items**

- 29 • Martin Hudson will revise and distribute the first draft of the two-page summary  
30 through Veronica Yuke for subcommittee review.
- 31 • Jim Malley will continue development of the how-to guide and provide a draft if  
32 available before the next meeting.
- 33 • Courtney Johnson will continue development of the webinar outlines and aims to  
34 circulate a draft before the next meeting.
- 35 • The subcommittee identified stakeholder input from hospital owners and  
36 administrators as a continuing need.

- The subcommittee discussed presenting draft materials to selected stakeholders for more focused feedback.

## **7. Potential White Paper Update**

**Facilitator:** Martin Hudson, PhD, PE, GE, Principal Geotechnical Engineer, Hudson Geotechnics, Inc.; Subcommittee Chair

### **Discussion and Input**

Martin Hudson stated that the committee would discuss whether enough information had been gathered from recent meetings and presentations to determine the next steps for the white paper.

He asked whether the committee had sufficient information to begin drafting either an addendum or an update to the existing white paper and opened the discussion to committee members.

He specifically asked Farzad Naeim for input regarding whether an addendum or revision would be the most helpful way to address newer technology.

- Farzad Naeim stated that, in his opinion, the current white paper is already serving its intended purpose. He stated that what is needed is a simpler, client-oriented, hospital owner-oriented document that clearly highlights what health monitoring can do for hospital facilities.
  - Martin Hudson stated that he agreed and noted that this objective aligns with the two-page summary currently in progress. He further stated that an addendum may still be warranted and suggested that the how-to guide may effectively serve as that addendum by describing the technology and how to implement it.
- Jim Malley stated that he agreed this would be an important component. He noted that the existing white paper already discusses the benefits of instrumentation, including post-earthquake response. He stated that an appendix or addendum could strengthen the practical implementation aspects by describing how hospitals can move from the white paper concepts into actual instrumentation and post-earthquake response planning.

Martin Hudson then stated that, based on the comments from Farzad Naeim and Jim Malley, the committee's direction appeared to be to leave the original white paper unchanged at this stage and instead proceed with two supplemental documents: a two-page summary intended for hospital owners and a more detailed technical how-to guide.

- Jim Malley added that some future updates to the original document may still be needed to integrate the materials and update technical information, but stated that it makes sense to wait until the supplemental materials are completed.
  - Martin Hudson stated that the committee should first complete the two addenda and then review whether any additional revisions to the original white paper are necessary.
- Roy Lobo then asked whether the two-page summary would include pictures.
  - Martin Hudson confirmed that it would and stated that, because the document is public-facing, visual materials are important. He stated that he had already included two images, although the two-page format limits the amount of visual content that can be included.
    - Roy Lobo responded that the additional detail planned for the how-to guide should adequately supplement the summary and stated that he believed the committee was in a good position.

### **Subcommittee and Public Comments**

- Farzad Naeim commented that the existing white paper is fulfilling its purpose and that the committee should focus on preparing a simpler, client-oriented document for hospital owners.
- Jim Malley commented that the how-to guide can serve as a technical addendum and that future updates to the original white paper may still be appropriate.
- Roy Lobo commented on the inclusion of visual content in the two-page summary and acknowledged that the how-to guide can provide additional detail.

### **Informational and Action Items**

- The subcommittee discussed maintaining the existing white paper in its current form at this stage.
- The subcommittee discussed proceeding with two supplemental deliverables: a two-page summary and a technical how-to guide.
- The subcommittee agreed to revisit whether revisions to the original white paper are needed after those materials are completed.

**8. Comments from the Public/Subcommittee Members on Issues not on this Agenda the Subcommittee will receive comments from the Public/Subcommittee Members. Matters raised at this time may be taken under consideration for placement on a subsequent agenda.**

1 **Facilitator:** Martin Hudson, PhD, PE, GE, Principal Geotechnical Engineer, Hudson  
2 Geotechnics, Inc.; Subcommittee Chair

3 Martin Hudson acknowledged that no subcommittee members or members of the public  
4 had additional comments. He thanked everyone and stated that he appreciated the  
5 work being done and that it felt like the subcommittee was making progress.

6  
7 **9. Adjournment**

8 **Facilitator:** Martin Hudson, PhD, PE, GE, Principal Geotechnical Engineer, Hudson  
9 Geotechnics, Inc.; Subcommittee Chair

10 Martin Hudson formally adjourned the meeting at 11:44 a.m. He thanked the  
11 participants for their work and stated that the subcommittee was making progress.

This page left intentionally blank.

# Ad Hoc “HCAI Design Guide for Planning and Preparing for Disasters” Webinar Development Subcommittee of the Education and Outreach Committee

---

Draft Meeting Reports/Minutes

May 13, 2026

This page left intentionally blank.



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



**Hospital Building Safety Board  
Ad hoc “HCAI Design Guide for Planning and Preparing  
for Disasters” Webinar Development Subcommittee**

**May 13, 2026  
10:00 a.m. – 4:00 p.m.**

**Meeting Location:**

2020 West El Camino Ave, Conference Room 930, Sacramento, CA 95833  
355 South Grand Avenue, Conference Room 2000, Los Angeles, CA 90071

**Subcommittee Members Present**

Teresa Endres, Subcommittee Vice-Chair  
David Bliss  
Janice Cheung  
Jennifer Cox  
Gary Dunger  
Mikhail Fuks  
Kelly Martinez

**Consulting Members Present**

Abdel Darwich

**HCAI Staff Present**

Richard Tannahill  
Larry Enright  
Jamie Schnick  
Nanci Timmins  
Clara Wu

**HBSB Staff**

Veronica Yuke, Executive Director  
Marcus Palmer  
Evet Torres

- 1 **1. Call to Order and Welcome**
- 2 **Facilitator:** Teresa Endres, AIA, ACHA, EDA, AAH, Principal, Sr. Medical Planner,
- 3 HOK; Subcommittee Chair
- 4 Teresa Endres called the meeting to order on May 13, 2026 at 10:0 a.m. and welcomed
- 5 everyone to the HBSB Ad hoc HCAI Design Guide for Planning and Preparing for
- 6 Disasters Webinar Development Subcommittee meeting.
- 7 **2. Roll Call and Meeting Advisories/Expectations**
- 8 **Facilitator:** Veronica Yuke, HCAI; HBSB Executive Director (or designee)
- 9 Veronica Yuke conducted the roll call and confirmed that a quorum was present. She
- 10 provided the informational rules of engagement described above.

### **3. Discuss HCAI Design Guide for Planning and Preparing for Disasters Webinar Series in 2026**

**Facilitator:** Teresa Endres (or designee)

#### **Discussion and Input**

Teresa Endres explained that this agenda item was prepared before the Education and Outreach Committee meeting held on April 29th. She noted that the webinars: Wildland Urban Interface (referenced as Title 22, Part 7), the WUI HVAC, and the Power Independence webinars, had already been reviewed and commented on at the EOC, so they did not require further review. She announced the scheduled dates: the Wildland Urban Interface Title 24 Part 7 webinar for the following day, the WUI HVAC webinar for June 10th, and the Power Independence webinar for July 7th.

#### **Subcommittee and Public Comments**

- There were no questions or comments raised by the subcommittee or members of the public during this agenda item.

#### **Informational and Action Items**

- Veronica Yuke noted that committee members joined the meeting.
- Abdel Darwich identified himself as a consultant member to the committee, and Janice Cheung identified herself as a member of the board.

### **4. Review PowerPoint presentations**

**Facilitator:** Teresa Endres (or designee)

**Presentation A, Infection Control for HVAC Systems** (Presenters: Mikhail Fuks and Abdel Darwich)

#### **Discussion and Input**

Mikhail Fuks and Abdel Darwich presented their collaborative deck on infection control for HVAC systems, which they estimated to be roughly 70–75% complete and not yet fully QA/QC'd. They described it as a two-part presentation: the core strategies from the disaster preparedness guide, followed by an overview of ASHRAE Standard 241.

Mikhail Fuks walked through the introductory and background material, explaining why ventilation matters to patient safety and operational continuity, how the COVID-19 pandemic exposed gaps and limitations in existing hospital HVAC systems, and why the preparedness guide was needed. He then presented the four core strategies from the guide: airflow and pressurization (directional airflow, negative pressure, and preventing contaminated air from spreading); ventilation (outside air, converting return-air systems to exhaust, register placement, exhaust risers for surge, and modifying air-handler

operation across operational states); filtration (HEPA use beyond code minimums, with attention to pressure drop, system performance, and energy impacts, and temporary or retrofit deployment in patient rooms); and system flexibility and controls (designing new systems to flex, variable-speed fans, switching between exhaust and return configurations, and pre-programming operational states). He addressed real-world retrofit constraints such as room airtightness and the difficulty of maintaining differential pressure, reinforcing that directional airflow matters more than a perfect pressure differential.

Abdel Darwich then presented the ASHRAE Standard 241 augmentation. He explained the rationale for a unified, performance-based standard; its history (developed after the guide's work was completed, largely in 2022–2023, and published at the end of 2023); and its scope (addressing only long-range airborne transmission, setting minimum requirements, and applying to new and existing buildings and major renovations across design, installation, operation, and maintenance). He summarized the standard's new concepts: the Infection Risk Management Mode (IRMM), an elevated operating mode that owners, occupants, or public health officials can activate but that cannot run continuously because of its energy demand; the Equivalent Clean Airflow for Infection (ECAi), which shifts the focus from quantity of air to quality and is expressed as clean-air CFM per person, derived from fixed assumptions (0.1% infection probability, one-hour exposure, and a 3% infected-population assumption for healthcare); a unified air-cleaner test method allowing technologies to be compared on equal footing rather than through vendors' own favorable tests; and the building readiness plan documenting strategies and controls in advance. He noted that 241 is not yet code but that LEED awards a point for applying it, that ASHRAE 62.1 and Guideline 44 now reference it, and that a calculator is available with purchase of the standard. He demonstrated an ED waiting-room example showing how a combination of measures (reducing occupancy, increasing outside air, and maintaining MERV 14) achieves compliance, giving owners a quantifiable basis for decisions. He cited a Pacific Northwest National Laboratory study published in October 2025 that compared strategies across six climates, finding increased outside air the most energy-intensive option (in five of six climates, the exception being mild climates such as San Francisco) and portable air cleaning with UV systems the least energy-intensive. He closed with stakeholder-specific key takeaways, noting that he and Mikhail Fuks still need to combine and reorganize their respective takeaway slides.

During the presentation, Teresa Endres asked about inconsistent font sizes on one slide (attributed to QA/QC), requested that all references to COVID specify "COVID-19 pandemic," and asked that a blue/green slide heading reference the corresponding table or page in the guide. She also asked to retain the key-takeaways slides given the webinar's multiple target audiences, and Richard Tannahill agreed they should be kept.

## 1 Subcommittee and Public Comments

- 2 • David Bliss praised the presentation and offered three comments: that the  
3 material could acknowledge respiratory-transmitted illnesses beyond COVID-19  
4 (citing measles and TB, and referencing Hantavirus and Ebola) given growing  
5 concern that such events may not be rare; that, drawing on the medical concept  
6 of "number needed to treat," it could be valuable to comment on the cost-  
7 effectiveness or likelihood of averting a hospital-acquired infection if such data  
8 exist; and that HCAI should consider differential requirements for low- versus  
9 high-population-density areas and quaternary versus critical-access facilities,  
10 noting the burden uniform standards place on smaller, thin-margin hospitals  
11 (citing Mammoth General as a supposition).
- 12 • Teresa Endres then asked Larry Enright whether Standard 241 would be  
13 included in code.
- 14 • Larry Enright responded that it had not been provided for the next code cycle and  
15 would require future coordination with CDPH because of the operational IRMM-  
16 plan component.
- 17 • Abdel Darwich followed up on David Bliss's points, raising the foundational  
18 ASHRAE question of whether a hospital should remain in IRMM mode at all  
19 times or only during a pandemic, noting limited research on infection in normal  
20 patient rooms and that HVAC is not among the leading causes of healthcare-  
21 associated infections outside the OR and airborne-isolation rooms.
- 22 • Jennifer Cox, system director of epidemiology and infection control for UCI,  
23 responded that infection prevention is part of every daily workflow but that  
24 ventilation is not the primary strategy relied upon; she described the multifactorial  
25 nature of prevention (instrument sterilization, skin prep, hand hygiene, surface  
26 disinfection, and early identification and isolation of communicable cases), with  
27 ventilation most important in procedural spaces.

## 28 Informational and Action Items

- 29 • Mikhail Fuks and Abdel Darwich are to complete QA/QC and finalize the deck,  
30 combine and reorganize their key-takeaway slides, specify "COVID-19  
31 pandemic" throughout, correct font inconsistencies, and reference the relevant  
32 guide table or page.
- 33 • Larry Enright is to coordinate with CDPH in the future regarding potential code  
34 inclusion of Standard 241.

35 **Presentation B, Infection Control Operations [originally Topic #5]** (Presenters:  
36 Jennifer Cox and Kelly Martinez)

## 37 Discussion and Input

1 Jennifer Cox presented on infection prevention operations, emphasizing that infection  
2 prevention concepts must be woven into every phase of design rather than added as an  
3 afterthought. She covered the built-environment foundation (including infection  
4 prevention in design, the infection control risk assessment, the regulatory framework,  
5 materials, airflow, water management, hand hygiene, and EVS and ancillary workflows),  
6 the value of a proactive rather than fix-it approach, day-to-day and emergency design  
7 modes, cross-disciplinary alignment among clinical end users, facilities, EVS, designers,  
8 and regulators, and phased construction maintaining air, water, and traffic separation in  
9 occupied spaces.

10 She then walked through specific built-environment factors: HVAC designed to  
11 accommodate both routine needs and rapid transition during a surge, including  
12 converting individual rooms or entire wards into airborne infection isolation space;  
13 materials and finishes selected for cleanability and durability against harsher  
14 disinfectants needed for pathogens such as *Candida auris*, avoiding porous materials,  
15 and accounting for COVID-19-era disinfectant shortages; hand-hygiene infrastructure  
16 with accessible placement, supply redundancy and pandemic stock, and water-outage  
17 contingencies; and EVS workflows with adequate storage and staging, accessible utility  
18 rooms and closets within each patient zone, and distinct waste-removal pathways. On  
19 flexibility and surge capacity she described convertible rooms and units, acuity-  
20 adaptable spaces (med-surg to ICU, PACU to critical care), pre-engineered airborne-  
21 isolation conversion with adequate ductwork and dampers, universal rooms, temporary  
22 isolation areas with donning and doffing zones, anterooms and transition spaces, clearly  
23 segregated clean and dirty pathways, and mortuary surge space.

24 On ventilation and water systems, Jennifer Cox covered emergency-mode ventilation  
25 and pressurization, convertible positive-to-negative pressure modes with verification,  
26 power backup for fans, dampers, and controls, and real-time BMS monitoring with  
27 alarms and visual indicators outside care spaces. For water, she addressed preventing  
28 stagnation in low-use zones, maintaining hot-water loop temperatures, eliminating dead  
29 legs, minimizing aerosolizing fixtures to protect immunocompromised patients, aligning  
30 with ASHRAE 188 and CDPH legionella-prevention expectations, automated flushing,  
31 sampling ports and sensors, chlorine-residual detection, hyperchlorination injection  
32 points, and backup disinfection on backup power, along with emergency scenarios such  
33 as main breaks, contamination events, construction shutdowns, and recommissioning  
34 with communication continuity. On clinical outbreak operations she described patient-  
35 flow segregation and dedicated pathways, triage and screening, staff workflow and  
36 decontamination (PPE storage and access, PPE and respirator reuse and  
37 decontamination space, launderable gowns, observed donning and doffing, and  
38 decontamination showers), and visitor management for the "worried well" with pop-up  
39 screening stations and exterior spaces. She closed with sterile processing and

1 perioperative scalability, waste and biohazard routing, real-time environmental  
2 monitoring and dashboards, supply chain and storage, facilities and emergency-  
3 management coordination, commissioning, recommissioning and validation with  
4 scenario-based testing, construction and renovation preparedness, and governance  
5 across the project lifecycle.

6 During the presentation, Teresa Endres asked whether a slide reading "convertible  
7 units" should say something else; Jennifer Cox confirmed it should read "rooms and  
8 units" and would adjust it.

## 9 **Subcommittee and Public Comments**

- 10 • None.

## 11 **Informational and Action Items**

- 12 • Jennifer Cox is to correct the slide wording from "convertible units" to "rooms and  
13 units."

14 Teresa Endres then addressed combining the infection control HVAC and operations  
15 decks, assigning Mikhail Fuks and Kelly Martinez to coordinate that effort for review at  
16 the July 22, 2026, Education and Outreach Committee meeting. Because of Kelly  
17 Martinez's logistical constraints, the committee reordered the agenda to take the Hazard  
18 Vulnerability Assessment next and return to design afterward. Teresa Endres clarified  
19 that presenters were giving overviews of each slide deck rather than delivering the full  
20 webinar presentations.

## 21 **Presentation C, Hazard Vulnerability Assessment** (Presenter: Kelly Martinez)

### 22 **Discussion and Input**

23 Kelly Martinez presented on identifying risks for a resilient hospital through a Hazard  
24 Vulnerability Assessment (HVA), describing it as a systematic, quantified approach with  
25 four stages: identifying hazards, assessing risk, prioritizing, and mitigating and  
26 integrating into operational strategy. She explained that the HVA matters because it is  
27 proactive, identifying a hospital's specific risks and preparedness levels. She described  
28 the hazard categories, natural hazards (such as the higher geological/earthquake risk in  
29 California, and internal risks like aging pipes creating flood potential), technological and  
30 infrastructure hazards (power outages, medical gas, HVAC failures, and EMR/IT  
31 security), and human-caused and operational hazards (including surge). She detailed  
32 scoring across probability, human impact, property and operational damage, business  
33 continuity, and preparedness and response availability, which produces a number used  
34 to prioritize the highest risks, illustrated with a scoring matrix in which a high-probability  
35 earthquake in an SPC-5 building might score medium.

Kelly Martinez described the methodology of scoring events on a 0–3 scale using facility history, calculating relative risk from probability and severity, prioritizing, and building a mitigation plan, with the process typically routed through the environment of care committee to the governing board. She presented an earthquake example yielding a relative risk of 78, with top example risks of earthquake, extreme temperatures, drought, epidemic, and active shooter. She then connected the HVA to infrastructure and capital planning (structural upgrades, capital prioritization, and renewal cycles such as generator end-of-life and redundancy), business continuity (surge capacity, emergency staffing, interagency and DRC coordination, equipment staging, and incident command using HICS forms), and regulatory and accreditation alignment (DNV, Joint Commission, and CMS, with quarterly review, evidence of due diligence, and available grants). She closed on continuous improvement through annual review, lessons learned from planned and unplanned events, and training programs such as run-hide-fight for active-shooter risk, framing the goal as transforming preparedness into resilience and business continuity.

## **Subcommittee and Public Comments**

- None.

## **Informational and Action Items**

- The HVA overview was provided for information purposes.
- Presenter assignments for the actual webinar remain to be determined; Kelly Martinez presented this overview for today.

## **Presentation D, Infection Control Design (Presenters: Kelly Martinez and Teresa Endres)**

### **Discussion and Input**

Kelly Martinez introduced infection control design, emphasizing designing beyond code minimums to create a resilient healthcare facility. She reviewed the historical context of how pandemic-ready facility planning has evolved over two decades, shaped by the SARS and MERS outbreaks, and highlighted Singapore as a leading post-SARS example using the DORSCON framework to align operational actions with threat levels across community coordination, facility infrastructure, and hospital operations. She summarized lessons from SARS (isolation room capacity, segregated patient flows, and surge planning across Singapore, Vietnam, the Philippines, and Canada) and MERS (rapid screening, cohorting, and staff PPE to contain fast-spreading healthcare-associated infection). She addressed planning for surge, triage and segregation, large-scale chemical, biological, radiological, and seismic events, hospitals operating at full capacity, and resource-limited rural hospitals, reiterating the need to design beyond code minimums for flexibility and resilience against seismic events, pandemics, mass-

casualty events, hazardous materials, and other disasters while maintaining business continuity.

Teresa Endres then walked through the design guide diagrams, noting they are intentionally non-specific so the design professional of record can determine the design with the client. She described the first-floor diagram areas including patient arrival, ED entry and triage innovations, hospital entry (an airport-style approach minimizing entries while recommending temperature-check and security vestibules beyond code minimum), ED design innovations, and compartmentalization. She covered the pandemic-ready patient units developed with CDPH, multipurpose rooms, vestibules, separation of flows, surge adaptation, design flexibility and future-proofing, decontamination and entry vestibule concepts, and strategic entry management. She explained that California's acuity-adjustable patient units differ from the acuity-adaptable units used elsewhere because of Title 22 and walked through ICU-version diagrams featuring anteroom entries and decentralized nursing for patient-head visibility, as well as med-surg adaptations. She described flexible donning and doffing solutions using multipurpose rooms, including designs derived from the 2004 Canadian code developed after that country's 2003 pandemic, with alcoves for donning and for doffing used PPE alongside a hand-washing fixture. She addressed staff support and wellbeing, noting that respite and recharge spaces affect staff wellbeing, retention, and recruiting, and discussing evidence-based design with natural elements and flexible spaces for staff who cannot leave their units during emergencies, often beyond code minimum. She closed on investing in resilience, reiterating the recurring theme of designing beyond code minimums, with Kelly Martinez to recap the key strategies.

#### **Subcommittee and Public Comments**

- None.

#### **Informational and Action Items**

- Each group is to perform QC and make necessary changes so the slide decks can be reviewed at the July 22nd Education and Outreach Committee meeting.

### **5. Comments from the Public/Subcommittee Members on Issues not on this Agenda The Subcommittee will receive comments from the Public/Subcommittee Members. Matters raised at this time may be taken under consideration for placement on a subsequent agenda.**

**Facilitator:** Teresa Endres (or designee)

- Teresa Endres asked that updated slide decks be sent to Evett Torres and the Hospital Building Safety Board support email address by Tuesday, July 21<sup>st</sup>.

- 1 • Teresa Endres also encouraged committee members, HCAI, and others on the  
2 call to share the webinar registration links on their social media to help publicize  
3 the series, noting ongoing work with the AIA Academy of Architecture for Health  
4 and other design-community membership organizations.
- 5 • Abdel Darwich asked whether dates had been set for the remaining webinars  
6 after July.
- 7 • Veronica Yuke proposed identifying available dates and suggested that, given a  
8 busy summer, some webinars might be scheduled in August.
- 9 • Teresa Endres noted that each scheduled webinar would need to be reviewed at  
10 the July 22, 2026, Education and Outreach Committee meeting. She asked  
11 presenters to write a short blurb about their webinar for the flyer to assist  
12 OSHPD.
- 13 • Regarding the intro and outro slides, Veronica Yuke indicated these are an in-  
14 house matter and recommended rotating the role among the OSHPD staff on the  
15 committee, subject to confirmation with Richard Tannahill and the OSHPD staff.
- 16 • On the flyer content, Evett Torres explained that she has been sending each  
17 webinar group the flyer, which includes approximately five bullet points where  
18 groups can list the topics to be discussed.

#### 19 **Subcommittee and Public Comments**

- 20 • None.

#### 21 **Informational and Action Items**

- 22 • Presenters are to send updated slide decks to Evett Torres and the HBSB  
23 support email address by Tuesday, July 21<sup>st</sup>, and to write a short blurb  
24 (approximately five bullet points) on their webinar topics for the flyer.
- 25 • The scheduled webinars are to be reviewed at the July 22nd Education and  
26 Outreach Committee meeting.
- 27 • Veronica Yuke is to confirm with Richard Tannahill and OSHPD staff the  
28 approach for rotating the intro/outro slide responsibility among OSHPD staff.
- 29 • Committee, HCAI, and call participants were encouraged to share webinar  
30 registration links on social media.

#### 31 **6. Adjournment**

32  
33 Teresa Endres thanked all attendees for their time and adjourned the meeting at 12:21  
34 p.m.

This page left intentionally blank.

# Technology and Research Committee

---

Draft Meeting Report/Minutes

June 18, 2026

This page left intentionally blank.



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



## Hospital Building Safety Board Technology and Research Committee

**June 18, 2026**  
**10:00 a.m. – 4:00 p.m.**

### **Locations**

2020 West El Camino Ave, Conference Room 930, Sacramento, CA 95833  
355 South Grand Avenue, Conference Room 2000, Los Angeles, CA 90071

### **Committee Members Present**

Gary Dunger, Committee Chair  
Cody Bartley, Committee Vice Chair  
Mikhail Fuks  
John Griffiths  
Belinda Young

### **HCAI Staff Present**

Richard Tannahill  
Arash Altoontash  
Lawrence Enright  
Jamie Schnick  
Nanci Timmins

### **HBSB Staff Present**

Veronica Yuke, Executive Director  
Rajveer Dhaliwal  
Marcus Palmer  
Evelt Torres

- 1 **1. Call to Order and Welcome**
- 2 **Facilitator:** Gary Dunger, Executive Director, Design and Construction, Cedars-Sinai
- 3 Health System; Committee Chair (or designee)
- 4 Gary Dunger welcomed everyone to the June 18th, 2026, HBSB Technology and
- 5 Research Committee meeting at 10:00 a.m. He expressed enthusiasm about the day's
- 6 presentations and appreciation for the presenters' generosity in joining.
- 7 **2. Roll Call and Meeting Advisories/Expectations**
- 8 **Facilitator:** Veronica Yuke, HCAI; HBSB Executive Director (or designee)

Veronica Yuke conducted roll call. At that time a quorum was not established, which she noted could change if more board or committee members joined. She advised that any voting during the meeting would be conducted through roll call.

### **3. Presentation: Affordable Clean Energy for Supplemental and Emergency Back Up Power**

**Facilitator:** Jeff Blair, President, BSD Builders, Inc. (or designee)

#### **Discussion and Input**

Gary Dunger introduced the presentation by Jeff Blair and his team, noting he had recently attended their presentation and found it interesting for addressing affordable clean energy for hospitals with an alternative twist to the process. Jeff Blair handed the presentation to his team.

Patrick Castro presented a microgrid system using co-generation and carbon capture designed to significantly reduce energy bills, save millions per year, help hospitals reach carbon neutrality goals for 2030 and 2045, and potentially be cashflow positive from day one. He introduced co-presenters Frank Shadpour, mechanical engineer and principal at SE Engineers, and Rocky Tanner, electrical engineer and principal at RTM Engineering Consultants. He explained the microgrid consists of three to four components: a combined heat and power plant, a microgrid controller, a carbon capture system converting CO<sub>2</sub> into liquid CO<sub>2</sub>, and, where used for emergency backup in place of diesel generators, a backup fuel system. He noted the systems are OSP certified. He described using rich burn units sized around 800 KW to achieve N+1 redundancy, sizing the plant a certain percentage above peak load to avoid demand charges and, under California healthcare law, standby or departing load charges. He explained heat is captured through a double wall heat exchanger for domestic hot water, heating, absorption chiller cooling, or steam, achieving roughly 90% efficiency, producing kilowatt hours at about four to six cents versus the typical 28 to 40 cents, with a major overhaul about every ten years. He described the microgrid controller enabling island mode (required to prevent backfeeding the grid) and load following with onboard load banks.

Patrick Castro then described the carbon capture platform, which extracts CO<sub>2</sub> from the exhaust using pebbles that attract CO<sub>2</sub>, vacuums it out, and liquefies it through compression into liquid CO<sub>2</sub> stored on site and trucked away in a sealed system for sequestration. He stated this qualifies for subsidies and creates a new revenue stream, with larger hospital projects offsetting 20 to 30,000 metric tons. He noted systems can run on hydrogen, biofuel, or RNG when available. He listed carbon capture benefits: CO<sub>2</sub> offset of 10 to 60,000 metric tons, achieving 100% of state GHG reduction goals,

1 eligibility for the 45Q tax credit (with programs to pass savings to nonprofit hospitals),  
2 and a new revenue stream from 99.99% medical-grade liquid CO<sub>2</sub>, a commodity whose  
3 market grows about 20 to 30% annually with off-take pathways including concrete,  
4 polymers and chemicals, liquid fuels, cooling (including data centers for AI), geological  
5 sequestration, and the beverage industry.

6 Frank Shadpour compared micro-cogen and fuel cells, identifying himself as an officer  
7 of the ASHRAE College of Fellows. He compared an 800 kilowatt micro-cogen with an  
8 800 kilowatt fuel cell, noting roughly seven million kilowatt hours per year of generation.  
9 He explained that combined heat and power micro-cogen averages roughly 75% to 80%  
10 efficiency nationwide (with the BSD solution closer to 88-90%), while fuel cells focus  
11 mainly on electricity generation and suit all-electric hospitals. He noted micro-cogen is  
12 reliable and can ramp up and down quickly, while fuel cells are quieter with less sound  
13 and vibration but micro-cogen is preferred for black start, resiliency, and heat recovery  
14 where load fluctuates. He emphasized that the BSD micro-cogen has an OSP allowing  
15 placement on the HCAI-approved portion of the microgrid, reducing the need for diesel  
16 backup generators, and that carbon capture is a must for hospitals targeting 2030 net  
17 zero. He stated fuel cell energy efficiency is good but does not replace emergency  
18 generators and that heat recovery claims need verification.

19 Rocky Tanner, with 37 years in the healthcare industry, stressed ease of installation,  
20 noting the BSD system arrives essentially as four boxes (reciprocating engine with heat  
21 recovery, microgrid controller, backup fuel) installed on a concrete pad without entering  
22 the building. He explained the two models, distributed energy resource and emergency  
23 backup, differ only in the fuel system, with an OSP for a compressed natural gas  
24 solution originally developed by the Department of Transportation and reconfigured for  
25 fixed space with DOT and SME safety measures, heat and leak detection, and 24-hour  
26 monitoring. He walked through a typical distributed energy resource installation that  
27 does not touch the standby generator and connects to the existing main service with  
28 islanding capability, and an emergency power configuration that removes the  
29 generators, connects transfer switches to the microgrid controller, and adds CNG fuel  
30 supply, noting the option to install a distributed energy resource first and phase out  
31 generators later as they age or codes change.

32 Patrick Castro added that the system uses a rich burn engine with a triple catalytic  
33 converter to pass AQMD air quality requirements (eased further by carbon capture) and  
34 that containerization lowers decibel levels.

35 Rocky Tanner added, from an electrical engineering perspective, that reciprocating  
36 engines can carry a 30% block power change easily, important for emergency power,  
37 whereas fuel cells and turbines do not handle large block loads coming online in under  
38 10 seconds and may shut down to protect themselves.

## Committee and Public Comments:

- John Griffiths thanked the team and commended them as the first out with a seismically certified system, then asked about the average operating efficiency given the need to size for in-rush/peak load.
  - Patrick Castro responded that systems are designed about 20 to 25% above peak load to avoid demand charges, hitting 88 to 91% efficiency depending on size.
- Rocky Tanner explained that because the system runs continuously as a replacement for the emergency system, the load never sees a disruption or in-rush, and they size for 125% of peak (current jobs under two megawatts), with the transfer switch normally staying on normal power and only flipping in a large outage where the emergency side is roughly 60% of the total.
- Frank Shadpour added return-on-investment figures from two large projects: a typical micro-cogen is only 35 to 40% efficient for electricity but reaches 75 to 80% with combined heat and power (the BSD system close to 88%), while fuel cell electrical efficiency is only 54%, better than 40% but short of the 90%-with-heat-recovery claims they have not observed in any hospital.
- Gary Dunger asked Rocky Tanner about the duration of emergency power operation on on-site CNG fuel.
  - Rocky Tanner explained the current OSP covers a single tank size sufficient to run an 800 KW system for about six hours, with more fuel achievable by stacking units in parallel, referencing AB 2511. Patrick Castro added that for hospitals, they adjust the tank size to provide 96 hours on site, either by stacking the OSP tank or using a bigger tank.
- Gary Dunger then asked Jeff Blair about the real estate commitment.
  - Jeff Blair, Patrick Castro, and Rocky Tanner described a current project using about 1,500 square feet for carbon capture and taking over a back section of a parking lot (24 stalls plus the lane) for roughly a 4.5 to 4.8 megawatt system, totaling about 5,000 to 6,000 square feet for a nearly five-megawatt system with setbacks and pathways.
- Jamie Schnick praised the presentation and asked about the OSP process, duration and expense.
  - Jeff Blair described the experience as terrifying but a cool adventure, recounting the UC Berkeley test lab with eight-foot-thick concrete walls, estimating at least \$400,000 for the big test (plus a smaller table test in Texas), about five days on site, and pulling it off within roughly six months with very quick paperwork review.

- Rocky Tanner noted the microgrid controller is about 80% standard paralleling gear with the controller built in and cautioned from a budget perspective that older hospitals often require replacing the antiquated main service when using this as a true microgrid emergency system.
- Jamie Schnick then asked about commissioning.
  - Rocky Tanner and Patrick Castro described extensive commissioning including heat recovery and existing-system impacts, estimating a couple of weeks for a small system, up to a month for a large one, plus about 60 days for the cogen-side commissioning supervised by manufacturers.
- Jamie Schnick recommended developing a consistent commissioning script during design and sharing it with OSHPD field staff.
- Mikhail Fuks asked about waste heat temperatures and whether the system adds infrastructure or removes equipment required for standard heating hot water.
  - Patrick Castro said temperatures exceed 200 degrees (controllable down to facility requirements of 190, 160, or 120), exceeding what is needed, with boilers retained as holding tanks rather than for natural gas heating. Jeff Blair noted existing equipment can sometimes be reused or, if end of life, replaced with new tanks and heat exchangers. Patrick Castro explained federal subsidies (qualifying via carbon capture under the 2025 IRA carbon-neutral requirement) apply only to the energy-production project itself.
- Mikhail Fuks asked about new builds.
  - Jeff Blair and Patrick Castro discussed boiler redundancy requirements and the likelihood of still needing backup heating systems despite the system being able to run the whole facility off-grid (while HCAI would still require grid connection).
  - Frank Shadpour stated definitively that another form of heating is needed regardless, because steam requirements for sterilizers and humidity control demand higher temperatures, noting assessments underway for two hospitals over a billion dollars each, with options including decentralized electric steam generation or a central plant source.
- John Griffiths asked how the system meets NFPA 110 testing requirements (annunciator, monthly testing) when replacing emergency generators.
  - Rocky Tanner stated construction meets all NFPA requirements including a remote annunciator, but testing details for larger systems, exercising transfer switches that normally never engage and cycling redundant units, are not fully sorted out, though skilled nursing facilities are easier.

- Jamie Schnick explained that NFPA code section 517 addresses this by requiring the microgrid, when used as an emergency power source, to be commissioned per NFPA 99 (which recognizes distributed energy resources and microgrid controllers) rather than the generator-focused NFPA 110.
- Responding to a follow-up from John Griffiths about hardwired annunciator and monthly/annual testing requirements, Rocky Tanner and Jeff Blair noted the system is continuously (perpetually) tested while running, with redundant standby units tested for availability, and the transfer switch back to the grid as another redundancy source.
- Jamie Schnick added that NEC 2023 revised section 517 to replace "generator" with "onsite power source," and that the code continues to evolve at the national level and is being adopted in California.

#### **Informational and Action Items**

- Jamie Schnick recommended that a consistent, simple commissioning script be developed during design and shared with OSHPD field staff to keep all parties aligned.
- The presenters noted several details for larger systems remain to be worked out, including NFPA testing methodology for continuously running units and transfer switches, and main service replacement considerations in older hospitals.

#### **4. Presentation: Electronic Testing, Inspection and Observation (eTIO) Program**

**Facilitator:** Chris Davis, SE, District Structural Engineer, HCAI (or designee)

#### **Discussion and Input**

Gary Dunger introduced Chris Davis who has led the development, implementation, and rollout of the electronic testing, inspection and observation (eTIO) program. Gary Dunger noted the eTIO is now live and in use at a couple of facilities.

Chris Davis gave a status update and live demo. He reported the program is being used on about four projects, all at Gary Dunger's facility, working with two DPORs (three projects with one, one with the other). Two projects were already through plan review and about to start construction, and two had just been submitted for plan review. He noted one DPOR had a good experience and asked to use it on his next project. He explained the rollout has helped catch loose ends as internal staff identify features previously checked on the paper TIO, and that his list of items to add is getting small. He stated feedback from DPORs, IORs, and HCAI staff has been largely positive and constructive, with changes underway based on IOR feedback. He noted the goal, as

Chris Tokas previously mentioned, is to make the eTIO available to any project by year's end, eventually discontinuing paper.

Chris Davis described current development work: adding the ability for HCAI staff to sign off on milestones and review VCRs, and updating the digital VCR form into two versions, one for a design professional (DPOR) and one for a responsible entity (such as the OPAA or a special inspector), to resolve a conflict where a contractor sometimes fills out a VCR for a sub performing tests or special inspections, allowing someone to sign a VCR for another entity. He outlined next steps including the VCR updates, building out the pre-plan-review process with functionality allowing a user to digitally sign the eTIO (currently missing) and lock it down to prevent concurrent changes during staff review, and continued identification of missing features. He reported the public rollout currently covers about four projects, with changes expected to be done in roughly a week to a week and a half, after which he would verify in-house and open the rollout to more volunteers, keeping the group limited until the application is more static.

Chris Davis emphasized that education is his main focus for the coming weeks, including training material. He described plans for webinars and introductions, plus 10 to 15 short topic-specific videos (one to two minutes each) so users can self-teach, since lengthy instruction PDFs tend to go unread. He also demonstrated a dynamic copy of the eTIO website with clickable bubbles and popups that explain each button and mimic the application's functionality, switchable by role (DPOR, IOR, HCAI) so a single tool can train all user types.

During the live demo, Chris Davis showed that the system has moved from a local database into the cloud through Acella, added user login through the eServices portal allowing public users to access from outside the HCAI network, and established role-based user permissions (DPOR full access, IOR reduced access, HCAI sign-off ability). He demonstrated the VCR process, including emailing VCRs to identified recipients with an email verification code to confirm identity before they fill out and submit the form, and newly added functionality (added the prior day) allowing relevant HCAI staff such as the DSE, FLSO, or CO to sign off on items to complete a milestone. He estimated the program is in the 90 to 95% complete range.

### **Committee and Public Comments**

- John Griffiths thanked Chris Davis and asked three questions. First, whether a specific browser is required.
  - Chris Davis responded that it works in Edge and Chrome (both Chromium-based), that Safari could be tested, and that iPad use could be supported by mimicking an iPad via browser developer tools, noting field staff use

iPads and the developer's build should work on a mobile platform, though a phone screen would be too small.

- Second, John Griffiths described frequent disputes over whether items belong on a TIO and asked whether each TIO could link to the code and an explainer.
  - Chris Davis explained that the code reference, descriptions, and commentary are included as part of the item and always visible (unlike the prior Excel spreadsheet where commentary was lost when printed to PDF), that not all codes are publicly linkable without login, and that he had worked extensively with Jamie Schnick, especially on electrical, and welcomed adding more commentary.
- Third, John Griffiths asked whether the EOR would be added to the dropdown alongside IOR and DPOR.
  - Chris Davis explained that anyone associated with the project can access the eTIO but non-DPOR/IOR/HCAI users have read-only access, that only the DPOR can add items to avoid read/write access-control conflicts, and that workarounds exist (such as sending a printout for others to mark up), with the possibility of accommodating multiple-editor access in the future.

#### **Informational and Action Items**

- Chris Davis identified upcoming work including completing the VCR form updates and pre-plan-review functionality (digital signing and lock-down), expanding the rollout to additional volunteer projects after the next update and in-house verification, and developing educational materials (webinars, short topic videos, and the interactive demo site). He indicated openness to adding code links and additional commentary to TIO items and to exploring iPad/mobile support and future multi-editor access.

### **5. Presentation: Reliable Backup Power for Healthcare Facilities: Hybrid SuperCapacitor Uninterruptible Power Supply (UPS) Units**

**Facilitator:** Alan Forster, Musashi Energy Solutions (or designee)

#### **Discussion and Input**

Gary Dunger introduced Alan Forster, reading his background covering more than three decades in power and technology infrastructure and prior roles with Active Power, Delta Electronics, UniPower, and Green Tube Technologies. Alan Forster introduced co-presenter Oliver Ulibus, Senior Director of Engineering, located in the Anaheim area.

Alan Forster explained that power in healthcare is mission critical, with diagnostic systems, imaging platforms, EMR, and connected medical devices unable to tolerate even milliseconds of downtime, while large equipment such as CT and MRI stress

1 facility grids with high peak power. He noted NFPA requirements mandate source  
2 transitions within 10 seconds, a gap none of the loads can tolerate, making reliability a  
3 matter of patient care, operational continuity, equipment protection, and regulatory  
4 compliance. He described the typical protection chain, utility power backed by onsite  
5 power sources (generators) and automatic transfer switches, with layers of UPS  
6 systems inside the facility, and explained that a UPS has two jobs: cleaning the power  
7 and protecting the load, addressing nine IEEE-defined power quality issues beyond  
8 simple interruption.

9 Alan Forster reviewed traditional energy storage options. He described chemical  
10 storage in VRLA (lead acid) form as heavy, large, maintenance-intensive, hazardous,  
11 with a three-to-five-year lifespan and high total cost of ownership, and lithium-ion as  
12 smaller with lower OPEX but carrying thermal runaway and life-safety risks, complex  
13 permitting under UL 9540 and fire code, and facility-director resistance. He noted all  
14 chemical storage loses capacity with each discharge and test. He described flywheels  
15 as mechanical (inertia-based) storage that removes fire and chemical hazard, operates  
16 across a wide temperature range, has higher initial CapEx, requires maintenance, but  
17 signals when it is not working unlike a battery.

18 Alan Forster then introduced the hybrid supercapacitor, combining EDLC  
19 (supercapacitor) technology with some lithium-ion battery technology, extending  
20 charge/discharge cycles into the millions (rated 100,000 to a million cycles versus 5,000  
21 to 7,000 for lithium-ion), achieving a 20-year-plus lifespan, with no flammable electrolyte  
22 or thermal runaway risk, a wide operating temperature range up to 40C matching UPS  
23 and switchgear ratings, and high safety compliance including UL 9540A, UL 1973, and  
24 recently completed OSHPD certification. He explained Musashi is a Japanese company  
25 based in Yamanashi that manufactures the cells and integrates systems in Michigan.  
26 He walked through the electrical distinction between energy and power, the cell  
27 construction (activated carbon and graphite electrodes using physics and some  
28 chemistry), the high cell voltage range (2.2 to 3.8 volts) allowing fewer cells, and the cell  
29 operating range of minus 30 to plus 70 with little loss of capability.

30 Alan Forster described additional properties: a predictable, near-linear charge and  
31 discharge curve (recharge in roughly the discharge time if infrastructure supports it,  
32 unlike batteries), minimal temperature sensitivity due to less chemistry, and excellent  
33 performance in highly cyclical environments (citing an MRI/radiology project and AI/data  
34 center "open compute" applications where the cells serve as electrical shock absorbers  
35 for NVIDIA servers). He noted Musashi's two business lines, selling cells to other  
36 manufacturers and developing complete energy storage solutions for peak load  
37 management and integration with emerging solid state transformer technology.

1 On safety, Alan Forster explained that the hybrid supercapacitor eliminates thermal  
2 runaway because it contains no metal oxide (only activated carbon), so no reaction  
3 between the positive electrode and electrolyte is possible. He referenced the 2019  
4 Arizona grid-scale lithium battery thermal runaway event that injured firefighters and  
5 drove subsequent regulation and noted that the 2026 NFPA 855 edition now gives  
6 hybrid supercapacitors their own category, while emphasizing that all technologies still  
7 require safety controls and mitigation. He mentioned completing seismic/shake-table  
8 certification for OSHPD-HCAI and updating UL to align after adapting the product's  
9 mechanical parts.

10 Alan Forster explained the solution is placed on the DC bus of a UPS, fitting well with  
11 the shift away from long battery runtime toward bridging source transitions, with a  
12 typical sweet spot of 30 to 60 seconds of transition time and a 15-to-20-year  
13 replacement cycle matching switchgear and UPS. He cited a 52% smaller footprint than  
14 VRLA and 25% smaller than lithium-ion on a one-megawatt UPS, cabinet weight around  
15 1,300 pounds (lighter than lithium), high energy efficiency with negligible parasitic  
16 losses, charge held for years, and operation up to 104 degrees Fahrenheit.

## 17 **Committee and Public Comments**

- 18 • John Griffiths noted weight is a major consideration for UPSs in buildings and  
19 asked whether the units are lighter.
  - 20 ○ Alan Forster confirmed they are significantly lighter than lead acid (70 to  
21 80% or more), somewhat lighter than lithium, and lighter than typical  
22 flywheel solutions (referencing Vicon and Active Power), also improving  
23 operating temperature range and energy efficiency, though full-system  
24 weight is the fair comparison.
- 25 • John Griffiths later asked whether the 2026 NFPA 855 provision was voted on  
26 and published or a pending amendment exempting thermal runaway  
27 requirements.
  - 28 ○ Alan Forster confirmed it was copied from the published version.
- 29 • John Griffiths followed up that, while he agreed the technology is safer, codes  
30 such as UL 9540 and UL 1973 still apply, asking whether fire protection and  
31 physical separation would still be required if installed in a room.
  - 32 ○ Alan Forster and Oliver Ulibus explained the unit is UL 1973 listed, the  
33 cells passed UL 9540A testing (unable to induce thermal runaway), and  
34 the system passed shake-table testing and is listed on the OSHPD  
35 website, but that the certification applies only to their unit and the rest of  
36 the system must still comply. He added that because the technology is  
37 new, local AHJ interpretation will vary, that capacitor-based storage has  
38 long had its own segregation category based on different requirements,

1 and that typical deployments of one to three cabinets fall well below  
2 mandatory separation thresholds, though other components in the space  
3 still require attention.

- 4 • Gary Dunger commented that codes recognize new technologies through  
5 alternate methods of compliance and that this technology is usable in healthcare  
6 facilities today, particularly as ratified in the NFPA 2026 version of 855. Jamie  
7 Schnick noted he had seen the presentation at a trade show and considered it  
8 new technology that would serve California hospitals well.
- 9 • John Griffiths offered an observation about encountering solid state transformers  
10 on other projects and asked when a seismically certified one might be available.
  - 11 ○ Alan Forster clarified Musashi is not a solid state transformer company but  
12 works closely with partners in that space, noting the AI data center market  
13 is consuming much of those companies' attention, and that Musashi's  
14 solution is agnostic to the power electronics technology used.

#### 15 **Informational and Action Items**

- 16 • Alan Forster offered to break off and discuss specific applications, separation  
17 and segregation requirements, and individual project details directly with  
18 committee members, and made himself and Oliver Ulibus available (in person or  
19 remotely) for further information.

#### 21 **6. Comments from the Public/Committee Members on Issues not on this Agenda**

22 **Facilitator:** Gary Dunger (or designee)

23 Gary Dunger invited issues from members of the public and heard none. He noted an  
24 opportunity for the committee to work again with the Education and Outreach  
25 Committee, particularly as Chris Davis and OSHPD look forward to doing webinars and  
26 outreach for the eTIO as well as the other technologies presented, observing that  
27 members who sit on both committees could help with that collaboration.

#### 29 **7. Adjournment**

30 Gary Dunger thanked everyone and adjourned the meeting at 12:17 p.m.

This page left intentionally blank.

# Codes and Processes Committee

---

Draft Meeting Report/Minutes

July 9, 2026

This page left intentionally blank.



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



## Hospital Building Safety Board Codes and Processes Committee

**July 9, 2026**  
**10:00 a.m. – 4:00 p.m.**

### **Locations**

2020 West El Camino Ave, Conference Room 930, Sacramento, CA 95833  
355 South Grand Avenue, Conference Room 2000, Los Angeles, CA 90071

### **Committee Members Present**

Teresa Endres; Committee Chair  
Cody Bartley  
Jennifer Cox  
Michael L. Davis  
Gary Dunger  
Mikhail Fuks  
Scott Karpinen  
Carl Newth  
Sam Staley

### **HCAI Staff Present**

Richard Tannahill  
Arash Altoontash  
Lawrence Enright  
Samantha Miller  
Jamie Schnick

### **Consulting Members Present**

Abdel Darwich  
Mark Hershberg  
Michael O'Connor  
Belinda Young

### **HBSB Staff Present**

Veronica Yuke, Executive Director  
Rajveer Dhaliwal  
Marcus Palmer  
Evet Torres

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

**Facilitator:** Teresa Endres, AIA, ACHA, EDAC, AAH, Principal and Senior Medical Planner, HOK; Committee Chair (or designee).

Teresa Endres called the meeting of the HBSB Codes and Processes Committee meeting to order on July 9, 2026, at 10:00 a.m. and welcomed everyone.

6

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

**Facilitator:** Veronica Yuke, HCAI; HBSB Executive Director (or designee).

Veronica Yuke conducted roll call and confirmed that a quorum was present. She reviewed the rules of engagement and stated that any voting would be conducted by roll call.

### **3. Review and prioritize the committee's 2026 goals**

**Facilitator:** Teresa Endres (or designee)

#### **Discussion and Input**

Teresa Endres introduced the item and read the committee's 2026 goals aloud, stating that the first goal should remain first: read existing CANs, PINs, and Advisory Guides. She read the remaining goals as: evaluate standard details for SNFs, including review and approval of the wood-framed details package before the Structural and Nonstructural Regulations Committee's review and endorsement; Title 24, identify code modifications to support implementation of the building standards code; and a seminar for the HCAI Collaborative Inspection Approach to Hospital Construction, coordinated with the Collaborative Inspection Approach to Hospital Construction Webinar Development Subcommittee. She identified these as four items and invited comments, questions, and thoughts.

Teresa Endres proposed revising the standard details goal to read "evaluate standard details," removing the reference to SNFs, because the goal would cover both SNFs and hospitals. She asked whether any goals should be added or modified and received no further response.

#### **Committee and Public Comments**

- Scott Karpinen asked whether the standard details goal looks only at SNFs, noting that standard details exist for regular OSHPD projects and that he wanted to make changes to those. He asked whether that would be part of this committee as well.
- Gary Dunger responded that the goal is for all hospitals, not just SNFs, and that it is for wood frame construction of hospitals.
- Richard Tannahill stated that if there are edits to anything else, they can be entertained at that point.
- The seminar developed with the Collaborative Inspection Approach to Hospital Construction Webinar Development Subcommittee is identified as a spring 2027 seminar.
- Teresa Endress stated that the seminar developed with the Collaborative Inspection Approach to Hospital Construction Webinar Development Subcommittee would be in the spring of 2027.

#### **Informational and Action Items**

- The standard details goal is to be revised to read "evaluate standard details," removing the reference to SNFs, as it covers both SNFs and hospitals.

- The 2026 goals were otherwise left as is.

#### **4. Electrical Code Change Summaries**

**Facilitator:** Jamie Schnick, P.E., Senior Electrical Engineer, HCAI (or designee)

#### **Discussion and Input**

Jamie Schnick presented the proposed 2027 California Electric Code Triennial Update. He explained that every three years staff combine the newly released NEC with the California amendments in the current CEC to develop the next California Electrical Code, and that by statute the submittal to the California Building Standards Commission is due one year after the NEC is published. The 2026 NEC was published in August 2025, and staff are on track to submit in August 2026.

Jamie Schnick described his approach to each California amendment: accept and carry forward as is, accept but relocate to match the new NEC numbering, or repeal where California language has since been adopted into the national code. He noted he sits on the national committee and proposes revisions there based on California amendments, with roughly 80 percent of this year's submittals approved. The update also includes cleanup, reference fixes, and responses to concerns raised over the last three years.

Jamie Schnick reviewed representative changes. Staff proposed removing the California amendment requiring compliance with Illuminating Engineering Society recommendations for artificial lighting, which conflicted with the critical branch provision and made lighting design difficult to document and review; egress lighting minimums and the requirement that all areas be lit remain. Six amendments can be repealed because the model code now carries the same language, illustrated by the wet procedure location GFCI provision. Three amendments are relocated without change to coordinate with the NEC's renumbering of power sources.

Jamie Schnick described changes addressing issues from the last 18 months: limiting flexible metal conduit to six feet where mechanical protection is required for life safety and critical branch lighting; permitting flexible metal conduit behind hard casework for nurse call, which the code addresses for UL-listed office furniture but not custom casework; clarifying nurse call pull station height where a grab rail conflicts with the three-to-four-foot requirement; and permitting passage through stacked telecom rooms at 10 feet or higher without access boxes, drawing on BICSI and FGI guidance.

Jamie Schnick closed with a code reference update, a provision applying hospital electrical system requirements to SNFs with patients on life support along with the 96-hour runtime requirement, and several items brought forward from the 2026 NEC and NFPA 99, including connecting generator accessories to the life safety branch in SNFs and correcting jumbled language on equipment branch requirements.

#### **Committee and Public Comments**

- Richard Tannahill asked about the numbering of two items presented as one and two.

- 1           ○ Jamie Schnick explained he was referring to the code section itself and  
2           keeping his descriptions simple.

### 3   **Voting**

4   Motion to endorse the proposed 2028 California Electrical Code, comprised of the  
5   adoption of the 2026 National Electric Code model code and revisions to the California  
6   amendments as presented.

- 7           • **Motion:** Cody Bartley  
8           • **Second:** Scott Karpinen  
9           • **Outcome:** Motion passes. No votes against and no abstentions.

### 10   **Informational and Action Items**

- 11           • The committee endorsed the proposed 2028 California Electrical Code,  
12           comprised of adoption of the 2026 NEC model code and revisions to the  
13           California amendments as presented.  
14           • The submittal to the California Building Standards Commission is due in August  
15           2026, one year after publication of the 2026 NEC.  
16           • Jamie Schnick will return the six-foot flexible metal conduit language to the  
17           national code as a proposed fix.

18

### 19   **5. 2027 Triennial Code Cycle: Update and Timeline**

20   **Facilitator:** Building Standards Unit Staff, HCAI (or designee)

### 21   **Discussion and Input**

22   Richard Tannahill explained that this presentation would be higher level than Jamie  
23   Schnick's, invited input, and noted staff are still collecting information. He turned the  
24   presentation over to Samantha Miller.

25   Samantha Miller presented the timeline. BSU began collecting code changes at the end  
26   of May and will continue through September, when it will present them to OSHPD  
27   leadership for review and approval. Staff intend to bring the actual code language to the  
28   October 15, 2026, Codes and Processes Committee meeting for review and possible  
29   endorsement, to be reported at the December full board meeting. Structural and  
30   inspection compliance changes go to the Structural and Nonstructural Regulations  
31   Committee at the end of August or beginning of September. She described BSU's  
32   ongoing work: reviewing updated reference standards, tracking FGI errata, monitoring  
33   national code committees and new legislation, maintaining a list of recurring Title 24  
34   questions from staff and the public, and coordinating with stakeholders including CAHF  
35   and other state agencies. She reviewed the CBSC code adoption cycle chart, noting the  
36   cycle is in pre-cycle, that this HBSB meeting is one of HCAI's public-facing  
37   opportunities, and that asterisked events are future opportunities for public participation.

1 She stated that topics throughout fall into two categories: miscellaneous items and AB  
2 130 items carried over, AB 130 having barred material changes during the intervening  
3 cycle.

4 Samantha Miller presented Part 1, the California Administrative Code, where most  
5 proposed amendments are in Chapter 7. She described clarifying that preliminary  
6 submittals, not geotechnical reports, lock in a project's code cycle; confirming that  
7 primary structural engineers must review structural component shop drawings affecting  
8 the primary structure; standardizing "calendar days" throughout; clarifying local  
9 approvals against final permit applications; clarifying that the office accepts but does not  
10 approve revised TIO programs; aligning structural test and special inspection  
11 requirements with current practice; defining project closeout; and connecting contracted  
12 work requirements to the violation and stop work notices in California Building Code  
13 Sections 114 and 115. She described a group of items defining Inspector of Record  
14 roles: reporting of availability, distribution lists for field records and verified reports,  
15 procedures for replacing an IOR, remedies when a final verified report cannot be  
16 furnished, standardized deviation notices, and program fees that have outpaced the  
17 amounts in statute. The behavioral health observation unit package is the AB 130  
18 carryover.

19 She presented Part 2, Volume 1, where most topics sit in Chapter 1224. Pharmacy  
20 items address compounding hood clearances and eye wash stations, staff support  
21 areas, and Board of Pharmacy terminology changes. Central sterile supply items  
22 address 2022 FGI terminology and revised AORN standards. Imaging drew the largest  
23 group, developed with CDPH: the code appears to default interventional imaging to a  
24 Class 3 room associated with a hybrid OR, and staff are exploring a Class 2 option  
25 carrying Class 3 environmental controls; other items address equipment rooms opening  
26 into restricted areas, doors and alcoves by modality, cardiac cath room sizing against  
27 Title 22, and gauss line demarcation. Miscellaneous OSHPD 1 items include OB triage  
28 areas, protective environment finishes for oncology, a combination AIR and PE room,  
29 med gas outlets in ED fast track rooms, ambulance bay door width, using the trauma  
30 room to satisfy a comprehensive ED operating room requirement, ICU on-call rooms,  
31 helipads on parking structures, right-sizing nurse call support areas, defining what  
32 constitutes a building as OSHPD 1R buildings come online, and sleeping furniture in  
33 pediatric ICU rooms.

34 Samantha Miller presented the remaining chapters. Chapter 1225 covers SNFs,  
35 developed with CAHF: special treatment programs, Title 22 pharmacy and drug  
36 distribution at SNF scale, and elevator requirements. Chapter 1226 needs little beyond  
37 code pointers for outpatient psychology and clarifying that the shared toilet room  
38 allowance does not extend to surgical clinics. Chapter 1228 and OSHPD 5 address  
39 chemical dependency recovery hospitals under new legislation, door swing at patient  
40 rooms, anterooms for AIR rooms, dining areas open to the corridor, employee support  
41 spaces, broken references for pediatric psychiatric units, and allowing dialysis within  
42 APHs. Part 10's principal item moves the 20 percent limit on removal and reinstallation  
43 of existing finishes out of the CAC and into the existing building code, where it is a  
44 useful threshold for renovations generally.

1 Larry Enright introduced himself as senior mechanical engineer in the Building  
2 Standards Unit and covered Parts 4, 5, and 6. For Part 4, the California Mechanical  
3 Code, he described the combination AIR and PE room; interior noise criteria for  
4 mechanical systems; essential power for pharmacy compounding; an outside air  
5 calculation carried over under AB 130; hydronic piping flexible connections needing  
6 coordination with ASCE 7 seismic requirements; updating the adopted IAPMO edition to  
7 2025; NICU treatment room ventilation; welding procedures and qualifications for steam  
8 piping; telecommunications room alignment with FGI and NFPA; unoccupied turndown,  
9 which will be required for certain spaces and applies to new construction only this cycle;  
10 and coordination of hazardous exhaust and central sterile processing with Table 4A.

11 He presented Part 5, the California Plumbing Code: sensitive rooms, relocating hand  
12 washing requirements out of the definition and into Chapter 4, AAMI ST108 water  
13 quality for central sterile processing, staff FTE-based fixture counts carried over under  
14 AB 130, water balance testing for hot water recirculation, hot water branch length by  
15 volume rather than distance, right-sizing domestic water valve requirements to fixture  
16 groups, evaluating the Appendix M water demand calculator for health care, PVC and  
17 ABS placement for subsoil drainage, the clinic utility sink exception, scrub sinks in cast  
18 rooms without orthopedic work, and a single source of tepid water.

19 Larry Enright presented Part 6, where HCAI is not proposing amendments but is  
20 coordinating with the California Energy Commission. He described health care  
21 prototype enhancements, including a new SNF prototype for which HCAI supplied a  
22 wood frame one-story example. For new construction, the Commission will modify or  
23 remove health care exceptions in Sections 120.2(e), 140.4(d), and 140.4(m), adding a  
24 health care requirement resetting minimum turndown airflow so portions of a hospital  
25 shut down at night rather than whole units, with an exception keeping at least one  
26 operating room available for the ED or emergency surgery. Section 140.4(n) will require  
27 variable air volume for most spaces. For alterations, the proposal removes the blanket  
28 health care exception in Section 141, so that roof and ceiling insulation, fan energy,  
29 exterior windows, altered roofs, and lighting apply to remodels within the scope of work.

## 30 **Committee and Public Comments**

- 31 • Scott Karpinen objected to the interior noise criteria item, warning it would draw  
32 in acoustical consultants, drive conservative design, and add cost, and  
33 questioned the reliability of room testing.
  - 34 ○ Teresa Endres, Cody Bartley, and Michael O'Connor supported the concern,  
35 noting testing occurs after installation, that mitigation means building shaft  
36 walls in difficult spaces, and that ceiling height and interstitial limits make  
37 retrofit hard.
  - 38 ○ Mikhail Fuks suggested pre-approved construction details for adjacent  
39 occupancy types as an alternative to field testing.
  - 40 ▪ Larry Enright said staff would take the feedback into consideration.
- 41 • Carl Newth asked whether HCAI should establish how plumbing fixture counts  
42 are broken out among male, female, and all-gender facilities, rather than leaving  
43 the allocation to each jurisdiction and producing inconsistent results statewide.

- 1       ○ Richard Tannahill responded that HCAI sets the total count but has no control  
2       over allocation, and must abide by a local requirement when a jurisdiction  
3       notifies the office.
- 4       • On the operating room turndown proposal, Michael O'Connor and Teresa Endres  
5       raised the risk that clinical staff entering an unoccupied room during an  
6       emergency would not know the air changes had been reduced.
- 7       ○ Scott Karpinen described using occupancy sensors that restore code-required  
8       air changes within minutes while maintaining temperature and humidity.  
9       Mikhail Fuks stated the return to occupied mode should be automatic without  
10      prescribing the method, and that a stabilization time may be needed.
- 11      ○ Jennifer Cox suggested coordinating with the clinical team or maintaining a  
12      run of rooms at full air exchange.
- 13      ○ Sam Staley suggested exempting designated trauma and cardiac ORs from  
14      turndown.
- 15      ○ Mikhail Fuks also asked that existing remodels be carved out.
  - 16          ▪ Larry Enright confirmed the requirement applies to new construction only,  
17          this cycle.
- 18      • Belinda Young asked whether the 20 percent finish removal threshold applies per  
19      project or per room, noting it can be gamed.
- 20      ○ Richard Tannahill confirmed the per-room interpretation and agreed to clarify  
21      it.
- 22      • Belinda Young asked whether staff use AI for editorial consistency.
  - 23          ○ Richard Tannahill said staff are limited to the government version of Copilot  
24          and that most work remains manual.
  - 25          ○ Jamie Schnick noted the National Code Writing Committee prohibits AI for  
26          code language updates.
- 27      • Teresa Endres asked whether AB 2975 weapons detection requirements would  
28      appear in the 2028 code, describing significant unplanned growth in entry areas.
- 29      ○ Samantha Miller responded that the final standards must come from  
30      Cal/OSHA and cannot be codified until they exist.
- 31      • Michael O'Connor discouraged an ICU on-call room requirement for small and  
32      rural hospitals, and asked about amending Title 24 for cardiovascular pump  
33      rooms.
- 34      ○ Richard Tannahill responded that Title 24 cannot change until Title 22 does.
- 35      • Scott Karpinen asked whether ASME 31.1 or 31.9 governs the steam piping  
36      welding item.
- 37      ○ Larry Enright identified 31.9.
- 38      • Abdel Darwich asked whether the hydronic flexible connection item aligns with  
39      the recently issued CAN.

- Larry Enright confirmed it does.
- Carl Newth asked whether the committee will receive the code language ahead of the October meeting.
  - Larry Enright confirmed staff will publish the full code change and express terms beforehand.
- Belinda Young asked about recycled water piping entering hospitals to serve roof terraces.
  - Larry Enright said health care is generally excluded and that clarity would require working with CDPH on infection control.

## Informational and Action Items

- BSU will present all 2027 triennial code changes to OSHPD leadership at the end of September and will publish the full code language and express terms to the committee ahead of the October 15 meeting for review and possible endorsement, to be reported at the December full board meeting.
- Structural and inspection compliance code changes, including additional Part 10 items, go to the Structural and Nonstructural Regulations Committee at the end of August or beginning of September.
- The 2027 cycle is in pre-cycle; this HBSB meeting is one of HCAI's public-facing opportunities. AB 130 carryover items are posted online.
- Staff will reach out to SFM regarding amendments affecting IT facilities.
- Larry Enright will add recycled water brought into hospitals to the review list and will verify how the Part 6 fan energy alteration requirement applies to component replacement.
- Richard Tannahill will look at the language on cast rooms in the ED.
- Staff will take the committee's interior noise criteria concerns into consideration.
- AB 2975 cannot be codified until Cal/OSHA releases the standards; Title 24 pump room changes cannot proceed until Title 22 is amended.

## 6. Standard Details Update

**Facilitator:** Gary Dunger, Executive Director, Design and Construction, Cedars-Sinai Health System; Committee Member (or designee)

## Discussion and Input

Gary Dunger recapped the standard details effort, clarifying that the details are for wood frame construction of hospitals, whether general acute care or skilled nursing. He gave the background: the idea was presented to the committee many years ago without gaining traction, and he offered to take ownership of it a couple of years ago. He gathered input from OSHPD's chief fire and life safety officer, two field fire and life

1 safety officers, and several architects experienced in wood frame hospital construction,  
2 and presented the resulting details to the committee in May and September of last year.

3 Gary Dunger described the review cycle since. A Cedars-Sinai staff member converted  
4 the details to Revit, and they went to Brett Beekman in July 2025 for review. His  
5 detailed comments returned in August and September and were incorporated, a  
6 process complicated by the fact that the person doing the Revit work is not a structural  
7 engineer, requiring the two of them to interpret the comments together. Most comments  
8 concerned the proprietary connections of the wood elements, and because pre-  
9 approved details cannot list proprietary elements, documenting those connectors non-  
10 proprietarily became the central challenge. After a further round with Brett Beekman, the  
11 details were resubmitted in February of this year, and he recommended they go to a  
12 structural engineer to validate the connectors and produce structural calculations for  
13 official OSHPD review.

14 Gary Dunger stated he returned the details to Michael O'Connor, who had provided  
15 many of them, and that Michael O'Connor brought in Mark Hershberg to help develop  
16 the calculations. That work has been underway for about a month, conducted directly  
17 with Brett Beekman with Gary Dunger copied, and is making good headway toward  
18 formal submittal for approval as pre-approved details. He noted his prior involvement  
19 with the fire and life safety pre-approved details and offered to help with package  
20 formatting when the time comes.

## 21 **Committee and Public Comments**

- 22 • Discussions with Brett Beekman now concern the flow and structure of the  
23 package and how it is pulled into a formal pre-approved detail package, which  
24 was identified as the next issue after the calculations and which may require  
25 another layer of notes to match existing packages.
- 26 • Michael O'Connor commended Gary Dunger for taking the effort on and thanked  
27 Mark Hershberg for participating.

## 28 **Informational and Action Items**

- 29 • Structural validation of the connectors and structural calculations are underway  
30 for official OSHPD review, following Brett Beekman's February recommendation.
- 31 • Work is proceeding toward formal submittal of the wood frame standard details  
32 for approval as pre-approved details.
- 33 • The flow and structure of the package was identified as the next item to address  
34 after the calculations.
- 35 • Gary Dunger offered to assist with package formatting based on his prior  
36 involvement with the fire and life safety pre-approved details.

1 **7. Comments from the Public/Committee Members on Issues not on this Agenda**  
2 **The Committee will receive comments from the Public/Committee Members.**  
3 **Matters raised at this time may be taken under consideration for placement on a**  
4 **subsequent agenda.**

5 **Facilitator:** Teresa Endres (or designee).

## 6 **Discussion and Input**

7 Teresa Endres introduced the item and stated in advance that the committee would  
8 receive comments from the public or committee members, and that matters raised at  
9 this time may be taken under consideration for placement on subsequent agendas.

## 10 **Committee and Public Comments**

- 11 • Abdel Darwich, returning from an ASHRAE conference the previous week, raised  
12 three items for potential future consideration.
  - 13 ○ The first is a completed ASHRAE research project he supervised on outside  
14 air requirements in health care. He explained that total air change has been  
15 researched but outside air never has, which is why most values in Table 4A  
16 and ASHRAE 170 are two air changes. The researchers worked with three  
17 health care systems, two in California, and identified the contaminant for each  
18 of the 200 spaces in the table based on activity, recommending outside air  
19 accordingly. The recommendation is to move away from air change for  
20 outside air while retaining it for total air change, on the basis that air change  
21 does not represent contaminant load. He offered to present the project at a  
22 future meeting once published; Teresa Endres said the committee would  
23 determine which committee is the right one.
  - 24 ○ The second concerns commercial space exploration. ASHRAE has approved  
25 a new, not yet numbered standard for indoor air quality in spacecraft and off-  
26 planet habitats. Abdel Darwich noted two unresolved questions: which  
27 standard governs medical facilities in those habitats, the new standard or  
28 ASHRAE 170; and which authority has jurisdiction, where the push for  
29 commercial operations is the state where the company is headquartered —  
30 most often California. He observed this raises the prospect of OSHPD  
31 licensing a hospital on the moon and noted that research assumptions based  
32 on gravity would not hold. Belinda Young noted there is no outside air in that  
33 scenario. Michael O'Connor suggested involving the Structural and  
34 Nonstructural Committee.
  - 35 ○ The third is elevation correction. The 2025 edition of ASHRAE 62.1, covering  
36 non-health care buildings, introduced a correction requiring more air at higher  
37 altitudes to deliver the same mass, and some in ASHRAE 170 have begun  
38 discussing it. Abdel Darwich offered South Lake Tahoe as an example  
39 requiring a 25 percent correction, noted opinions differ on whether the  
40 correction is excessive or simply physics, and observed that California's  
41 range from Death Valley to the Sierra would stretch Table 4A accordingly.  
42 Larry Enright noted ASHRAE 62.1 also carries an outdoor air quality provision

1 for mapped nonattainment areas, and that he has been examining whether  
2 the mechanical code needs to address it.

- 3       ▪ Teresa Endres stated the committee would take these items under  
4       consideration.

#### 5 **Informational and Action Items**

- 6       • Abdel Darwich will obtain further details on the ASHRAE outside air research and  
7       present it at a future meeting once published; Teresa Endres stated the  
8       committee would determine which committee is appropriate.
- 9       • ASHRAE's new standard for indoor air quality in spacecraft and off-planet  
10      habitats, and the elevation correction in the 2025 edition of ASHRAE 62.1, were  
11      raised for potential future consideration.
- 12      • Larry Enright is examining whether the ASHRAE 62.1 outdoor air quality  
13      provision for mapped areas requires action in the mechanical code.
- 14      • Teresa Endres stated the committee would take these items under consideration.

#### 16 **8. Adjournment**

17 Teresa Endres thanked everyone for their participation then adjourned the meeting at  
18 12:47 p.m.

This page left intentionally blank.

# Board Rosters

---

**August 2026**

COMMITTEE LIST

BOARD MEMBERSHIP

CONSULTING COMMITTEE MEMBERS

This page left intentionally blank.

## HOSPITAL BUILDING SAFETY BOARD 2026 COMMITTEES

### **AD HOC BOARD PROCEDURES COMMITTEE**

|                                                                                                                                                                                                                                                           |                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| <b><u>Committee Members:</u></b><br>Jim Malley, Chair<br>Gary Dunger, Vice-Chair<br>Cody Bartley                                                                                                                                                          | <b><u>Meeting Dates:</u></b><br>TBD |
| <b>Focus/Goals:</b> <ul style="list-style-type: none"> <li>• Meet as needed for:             <ul style="list-style-type: none"> <li>○ Policies and Procedures updates</li> <li>○ Nominating committee, training/onboarding members</li> </ul> </li> </ul> |                                     |

### **CODES AND PROCESSES COMMITTEE**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b><u>Committee Members:</u></b><br>Teresa Endres, Chair<br>VACANT, Vice-Chair<br>Cody Bartley<br>Jennifer Cox<br>Michael Davis<br>Gary Dunger<br>Mikhail Fuks<br>John Griffiths<br>Scott Karpinen<br>Jim Malley<br>Kelly Martinez<br>Farzad Naeim<br>Carl Newth<br>Noella Tabladillo<br>Belinda Young                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b><u>Consulting Members:</u></b><br>Abdel Darwich<br>Mark Hershberg<br>Michael O'Connor<br>Sam Staley<br><br><b><u>Meeting Dates:</u></b><br>July 9<br>October 15 |
| <b>Focus/Goals:</b> <ul style="list-style-type: none"> <li>• Read existing CANs, PINs, and Advisory Guides</li> <li>• Evaluate standard details             <ul style="list-style-type: none"> <li>○ Review and approval of Wood-Framed Details package before the Structural and Nonstructural Regulations Committee's review and endorsement</li> </ul> </li> <li>• Title 24             <ul style="list-style-type: none"> <li>○ Identify code modifications to support implementation of building standards code</li> </ul> </li> <li>• Seminar for HCAI Design Guide for Planning and Preparing for Disasters             <ul style="list-style-type: none"> <li>○ Coordinate with the Ad Hoc "HCAI Design Guide for Planning and Preparing for Disasters" Webinar Development Subcommittee</li> </ul> </li> </ul> |                                                                                                                                                                    |

## **EDUCATION AND OUTREACH COMMITTEE**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b><u>Committee Members:</u></b><br>Teresa Endres, Chair<br>Cody Bartley, Vice-Chair<br>Michael Davis<br>Gary Dunger<br>Courtney Johnson<br>Jim Malley<br>Kelly Martinez<br>Noella Tabladillo<br>Belinda Young                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b><u>Consulting Members:</u></b><br>Bruce Rainey<br>Bill Zellmer<br><br><b><u>Meeting Dates:</u></b><br>February 18 RESCHEDULED<br>March 4<br>April 29<br>July 22<br>November 4 |
| <b><u>Focus/Goals:</u></b> <ul style="list-style-type: none"><li>• Support the development of webinars</li><li>• Develop a regular curriculum and predictable calendar for webinars</li><li>• Emergency Design Guide (2027)</li><li>• Collaborative Inspection Approach to Hospital Construction Seminar (Collaborative Inspection Approach to Hospital Construction Webinar Development Subcommittee) (2027)</li><li>• Work with Instrumentation Committee regarding webinar/seminar on instrumentation white paper (2027)</li><li>• Assisting with Advisory Guides as subject matter experts</li><li>• eTIO Awareness: going from paper to electronic (informational)</li></ul> |                                                                                                                                                                                  |

## **AD HOC “HCAI DESIGN GUIDE FOR PLANNING AND PREPARING FOR DISASTERS” WEBINAR DEVELOPMENT SUBCOMMITTEE**

|                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| <b><u>Committee Members:</u></b><br>Teresa Endres, Chair<br>Gary Dunger, Vice-Chair<br>David Bliss<br>Jennifer Cox<br>Mikhail Fuks<br>John Griffiths<br>Kelly Martinez                                                                                                                                                                                   | <b><u>Consulting Member:</u></b><br>Abdel Darwich<br><br><b><u>Meeting Dates:</u></b><br>January 22<br>March 11<br>May 13 |
| <b><u>Focus/Goals:</u></b> <ul style="list-style-type: none"><li>• Develop content and schedule webinar presentations</li><li>• Finalize and host webinars</li><li>• Seminar for HCAI Design Guide for Planning and Preparing for Disasters<ul style="list-style-type: none"><li>○ Coordinate with the Codes and Processes Committee</li></ul></li></ul> |                                                                                                                           |

## **AD HOC EDUCATIONAL OPPORTUNITIES TO ADVANCE STRUCTURAL HEALTH MONITORING BY HOSPITALS SUBCOMMITTEE**

|                                                                                                                                                                                                                                                          |                                                                                                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b><u>Committee Members:</u></b><br>Marty Hudson, Chair<br>Courtney Johnson, Vice-Chair<br>Jim Malley<br>Farzad Naeim                                                                                                                                    | <b><u>Consulting Member:</u></b><br>Wendy Bohon<br><br><b><u>Meeting Dates:</u></b><br>January 29<br><del>March 10</del> RESCHEDULED<br>March 26<br>July 23 |
| <b><u>Focus/Goals:</u></b> <ul style="list-style-type: none"><li>• Develop educational opportunities to advance utilization of structural health monitoring by hospitals using seismic instrumentation</li><li>• Taking advantage of new tools</li></ul> |                                                                                                                                                             |

## **AD HOC HOW-TO-GUIDE DEVELOPMENT FOR PREAPPROVED FABRICATED COMPONENTS AND SYSTEMS SUBCOMMITTEE**

|                                                                                                                                                                                              |                                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| <b><u>Committee Members:</u></b><br>Cody Bartley, Chair<br>Belinda Young, Vice-Chair<br>Michael Davis<br>Gary Dunger<br>Scott Karpinen<br>Carl Newth                                         | <b><u>Meeting Dates:</u></b><br>February 12<br>March 19<br>May 6<br>June 17<br>September 30 |
| <b><u>Focus/Goals:</u></b> <ul style="list-style-type: none"><li>• Develop a how-to guide on preapproved fabricated components and systems as a follow up to the June 2024 webinar</li></ul> |                                                                                             |

## **ENERGY CONSERVATION AND MANAGEMENT COMMITTEE**

### **Committee Members:**

Cody Bartley, Chair  
John Griffiths, Vice-Chair  
David Bliss  
Jennifer Cox  
Gary Dunger  
Mikhail Fuks  
Scott Karpinen  
Carl Newth

### **Consulting Members:**

Abdel Darwich  
Eric Johnson  
David Lockhart

### **Meeting Dates:**

May 20 RESCHEDULED  
May 21 CANCELED  
September 16

### **Focus/Goals:**

- Identify HCAI research projects for energy conservation, reduction of carbon footprint, and cost savings while maintaining health and safety alternate energy sources
  - Consider systems and monitoring devices for other environmental conditions
  - Explore emerging technologies that help reduce the carbon footprint for healthcare facilities and implementation relative to code implementation of emerging tools relative to the code
- Pursue indoor air quality at a lesser energy cost for healthcare
- Explore wastewater solutions
- Lessons learned on microgrid projects
  - White Paper: Improved commissioning practices/failure mode analysis
- Responses to extreme weather-related system failures
- Commissioning agent to speak to committee

## **INSTRUMENTATION COMMITTEE**

### **Committee Members:**

Martin Hudson, Chair  
Courtney Johnson, Vice-Chair  
Teresa Endres  
Jim Malley  
Farzad Naeim  
Jennifer Thornburg

### **Consulting Members:**

Hamid Haddadi  
Moh Huang  
Tony Shakal

### **Meeting Dates:**

February 26 RESCHEDULED  
March 24  
October 29

### **Focus/Goals:**

- Continue working with HCAI staff on scheduled instrumentation installations
- Consider other systems and monitoring devices
- Collaborate with CGS on prioritizing upgrades to existing instrumentation
- Owner-targeted white paper on instrumentation
- Work with EO Committee regarding webinar/seminar on instrumentation white paper
  - (Ad Hoc Educational Opportunities to Advance Structural Health Monitoring by Hospitals Subcommittee (webinar to be placed on hold until revising of white paper to include new development once new tools have been used)

## **STRUCTURAL AND NON-STRUCTURAL REGULATIONS COMMITTEE**

### **Committee Members:**

Jim Malley, Chair  
Farzad Naeim, Vice-Chair  
Cody Bartley  
Michael Davis  
Mikhail Fuks  
Martin Hudson  
Courtney Johnson  
Scott Karpinen  
Noella Tabladillo  
Jennifer Thornburg  
Belinda Young

### **Consulting Member**

Mark Hershberg

### **Meeting Dates:**

July 29  
~~August 26~~ RESCHEDULED  
October 7

### **Focus/Goals:**

- 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
- Develop pre-approved details
  - Review and endorse the final Wood-Framed Details package approved by OSHPD and Codes and Processes Committee
- Seismic compliance issues related to NPC-3, NPC-4D, and NPC-5; streamlining the process for compliance to meet the statutory and regulatory deadline
- Develop and implement procedures and enforceable building standards to ensure safe and sustainable healthcare facilities
- Consider new products, materials and methods that would benefit the public by early adoption rather than waiting for their incorporation in the building code

## **TECHNOLOGY AND RESEARCH COMMITTEE**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| <b><u>Committee Members:</u></b><br>Gary Dunger, Chair<br>Cody Bartley, Vice-Chair<br>David Bliss<br>Jennifer Cox<br>Michael Davis<br>Teresa Endres<br>Mikhail Fuks<br>John Griffiths<br>Belinda Young                                                                                                                                                                                                                                                                                                                                                                                                        | <b><u>Consulting Members:</u></b><br>Benjamin Broder<br>Eric Johnson<br>Sam Staley<br><br><b><u>Meeting Dates:</u></b><br>June 18 |
| <b><u>Focus/Goals:</u></b> <ul style="list-style-type: none"><li>• Explore subjects of telemedicine and robotics (ongoing)</li><li>• Address how to regulate remote services (e.g., medical records, web-based nurse call, off-site server farms, etc.) (ongoing)<ul style="list-style-type: none"><li>○ Monitor CDPH electronic health records redundancy issues in the event of power failure and watch for potential effects to code</li><li>○ Invite industry members to address/inform the committee on the reliability of cloud-based systems (fire alarm, energy monitoring, etc.)</li></ul></li></ul> |                                                                                                                                   |

### **FULL BOARD MEETING DATES**

April 9 – Los Angeles  
August 13 – Sacramento  
December 9 and 10 – Los Angeles

## 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        | 8/2028        | 2nd term        |
|                                   | Farzad Naeim      | 8/2021        | 8/2029        | 2nd term        |
| 2 architects                      | Teresa Endres     | 8/2023        | 8/2027        | 1st term        |
|                                   | Belinda Young     | 12/2025       | 12/2029       | 1st term        |
| 1 engineering geologist           | Courtney Johnson  | 4/2024        | 4/2028        | 1st term        |
| 1 geotechnical engineer           | Martin B. Hudson  | 12/2023       | 12/2027       | 1st term        |
| 1 mechanical engineer             | Mikhail Fuks      | 6/2025        | 6/2029        | 1st term        |
| 1 electrical engineer             | John Griffiths    | 8/2022        | 8/2026        | 1st term        |
| 1 hospital facilities manager     | Gary Dunger       | 12/2022       | 12/2026       | 1st term        |
| 1 local building official         | Carl Newth        | 8/2024        | 8/2028        | 1st term        |
| 1 general contractor              | Cody Bartley**    | 8/2022        | 8/2026        | 1st term        |
| 1 fire/life safety representative | VACANT            | —             | —             | —               |
| 1 hospital inspector of record    | Michael L. Davis  | 8/2023        | 8/2027        | 1st term        |
| 3 public members                  | Jennifer Cox      | 4/2024        | 4/2028        | 1st term        |
|                                   | Kelly Martinez    | 6/2025        | 6/2029        | 1st term        |
|                                   | Noella Tabladillo | 6/2025        | 6/2029        | 1st term        |
| <b>TOTAL</b>                      | <b>16</b>         |               |               |                 |

### Ex-Officio Members

|                                                   |                                                                      |                              |
|---------------------------------------------------|----------------------------------------------------------------------|------------------------------|
| HCAI, Director                                    | Elizabeth Landsberg                                                  | No Term of Office Stipulated |
| State Fire Marshal                                | Daniel Berlant<br>Vickie Sakamoto (Delegate)                         |                              |
| State Geologist                                   | Jeremy Lancaster<br>Jennifer Thornburg (Delegate)                    |                              |
| Building Standards Commission, Executive Director | Stoyan Bumbalov<br>Irina Brauzman (Delegate)<br>Kevin Day (Delegate) |                              |
| Department of Public Health, Director             | Dr. Erica Pan, MD, MPH, FIDSA, FAAP<br>Nathaniel Gilmore (Delegate)  |                              |
| OSHDP, Deputy Director                            | Chris Tokas                                                          |                              |
| <b>TOTAL</b>                                      | <b>6</b>                                                             |                              |

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

|                           |                                                  |                              |
|---------------------------|--------------------------------------------------|------------------------------|
| 3 members                 | David Bliss<br>Michael Foulkes<br>Scott Karpinen | No Term of Office Stipulated |
| <b>TOTAL</b>              | <b>3</b>                                         |                              |
| <b>TOTAL HBSB Members</b> | <b>25</b>                                        |                              |

\*Chair: Jim Malley 2025-2026 (1st term)

\*\*Interim Vice-Chair: Cody Bartley (elected Dec. 2025)

July 2026

This page left intentionally blank.

## 2026 CONSULTING COMMITTEE MEMBERS

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Wendy Bohon, PhD</b><br/> Branch Chief   Seismic Hazards &amp; Earthquake Engineering<br/> California Geological Survey<br/> <b>(279) 599-6288</b><br/> <a href="mailto:wendy.bohon@conservation.ca.gov">wendy.bohon@conservation.ca.gov</a></p> <ul style="list-style-type: none"> <li>• Ad Hoc Educational Opportunities to Advance Structural Health Monitoring by Hospitals Subcommittee</li> </ul>                                                                                       | <p><b>Benjamin Broder, MD, PhD, CPPS</b><br/> Regional Assistant Medical Director of Quality and Clinical Analysis<br/> Kaiser Permanente<br/> <b>(626) 720-9422</b><br/> <a href="mailto:benjamin.i.broder@kp.org">benjamin.i.broder@kp.org</a></p> <ul style="list-style-type: none"> <li>• Technology and Research Committee</li> </ul>                                     |
| <p><b>Abdel Darwich, PE, LEED AP, HFDP</b><br/> Principal, Director of Quality Assurance<br/> Guttman &amp; Blaevet Consulting Engineers<br/> <b>(916) 921-1981</b><br/> <a href="mailto:adarwich@gb-eng.com">adarwich@gb-eng.com</a></p> <ul style="list-style-type: none"> <li>• Codes and Processes Committee</li> <li>• Energy Conservation and Management Committee</li> <li>• Ad Hoc “HCAI Design Guide for Planning and Preparing for Disasters” Webinar Development Subcommittee</li> </ul> | <p><b>Hamid Haddadi, PhD, GP</b><br/> California Geological Survey<br/> <b>(916) 416-8047</b><br/> <a href="mailto:hamid.haddadi@consrvation.ca.gov">hamid.haddadi@consrvation.ca.gov</a></p> <ul style="list-style-type: none"> <li>• Instrumentation Committee</li> </ul>                                                                                                    |
| <p><b>Mark Hershberg, SE</b><br/> KPFF Consulting Engineers<br/> <b>(310) 665-1536</b><br/> <a href="mailto:mhershberg@kpff-la.com">mhershberg@kpff-la.com</a></p> <ul style="list-style-type: none"> <li>• Codes and Processes Committee</li> <li>• Structural and Nonstructural Regulations Committee</li> </ul>                                                                                                                                                                                  | <p><b>Moh Huang</b><br/> California Geological Survey- Retired<br/> <a href="mailto:moh.huang@gmail.com">moh.huang@gmail.com</a></p> <ul style="list-style-type: none"> <li>• Instrumentation Committee</li> </ul>                                                                                                                                                             |
| <p><b>Eric C. Johnson, PE</b><br/> President<br/> ECOM Engineering, Inc.<br/> <b>(916) 570-1569</b><br/> <a href="mailto:ecj@ecomeng.com">ecj@ecomeng.com</a></p> <ul style="list-style-type: none"> <li>• Energy Conservation and Management Committee</li> <li>• Technology and Research Committee</li> </ul>                                                                                                                                                                                     | <p><b>David Lockhart, CHFM, CEM, CRL, FASHE</b><br/> Executive Director for Facilities Operations and Maintenance<br/> National Facilities Services<br/> Kaiser Permanente<br/> <b>(916) 417-8567</b><br/> <a href="mailto:dave.lockhart@kp.org">dave.lockhart@kp.org</a></p> <ul style="list-style-type: none"> <li>• Energy Conservation and Management Committee</li> </ul> |

## 2026 CONSULTING COMMITTEE MEMBERS

|                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Bruce A. Rainey, MHA</b><br/> Vice President, Healthcare<br/> Global Solutions Director, Health Advisory<br/> Jacobs<br/> <b>(760) 212-2438</b><br/> <a href="mailto:bruce.rainey@jacobs.com">bruce.rainey@jacobs.com</a><br/> Education and Outreach Committee</p>                                                                                                   | <p><b>Tony Shakal</b><br/> California Geological Survey- Retired<br/> <a href="mailto:tshakal@pacbell.net">tshakal@pacbell.net</a><br/> <ul style="list-style-type: none"> <li>Instrumentation Committee</li> </ul></p>                                                                                                                                                                    |
| <p><b>Sam Staley</b><br/> Senior<br/> Director of Design and Construction<br/> 1 Bush Street, Ste 200<br/> Sacramento CA 95825<br/> <b>(323) 533-7569</b><br/> <a href="mailto:sam.staley@providence.org">sam.staley@providence.org</a><br/> <ul style="list-style-type: none"> <li>Codes and Processes Committee</li> <li>Technology and Research Committee</li> </ul></p> | <p><b>Bill Zellmer, AIA, CASp</b><br/> Program Manager—Physical Access<br/> Compliance and Regulatory Affairs<br/> Sutter Health<br/> 2200 River Plaza<br/> Sacramento, CA 95833<br/> <b>(916) 216-3491 (cell)</b><br/> <a href="mailto:zellmeb@sutterhealth.org">zellmeb@sutterhealth.org</a><br/> <ul style="list-style-type: none"> <li>Education and Outreach Committee</li> </ul></p> |