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**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.

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

15 Subcommittee and Public Comments

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

23 Informational and Action Items

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

30
31 **8. Comments from the Public/Subcommittee Members on Issues not on this**
32 **Agenda the Subcommittee will receive comments from the Public/Subcommittee**
33 **Members. Matters raised at this time may be taken under consideration for**
34 **placement on a subsequent agenda.**
35

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.