

**OSHDP** Office of Statewide Health Planning and Development



**Hospital Building Safety Board**

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**HOSPITAL BUILDING SAFETY BOARD  
Technology Committee**

**Wednesday, March 4, 2015  
10:00 a.m. - 4:00 p.m.**

**Office of Statewide Health Planning and Development**

400 R Street, Suite 452  
Sacramento, CA 95811  
(916) 440-8446

and

**Metropolitan Water District Headquarters**

700 N. Alameda Street, Suite 2-546  
Los Angeles, CA 90012  
(213) 897-0166

**Committee Members Present**

Eric Johnson, Chair  
John Egan  
Michael Foulkes  
Lou Gilpin  
Scott Karpinen  
Poki Namkung  
Michael O'Connor  
Carl Scheuerman  
Richard Tannahill

Joe La Brie, Consulting Member

**OSHDP Staff**

Paul Coleman, FDD Deputy Director  
Hussain Bhatia  
Gary Dunger  
Glen Gall  
Jacob Knapp  
Roy Lobo  
Diana Scaturro  
Chris Tokas

**HBSB Staff**

Linda Janssen, Executive Director  
Evet Torres  
Kathy Zamora, OSHPD

**1. Welcome and Introductions**

2. Mr. Johnson called the meeting to order. Those in attendance introduced themselves.

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**2. Review and Approve November 17, 2014 Meeting Report / Minutes**

Mr. Johnson reviewed the events of the November meeting.

- Discussion and Public Input

Mr. Scheuerman noted that on page 6, line 6, “plant” should be changed to “plan”.

**MOTION:** (M/S/C/) [Scheuerman/O’Connor]

The committee voted unanimously to adopt the November 17, 2014 meeting minutes as corrected.

**(4.) FDD Update Presentation on Electronic Plan Review by Paul A. Coleman, FDD Deputy Director**

Mr. Coleman made the following points.

- More than 90% of drawings are done today via CAD.
- Paper drawings are heavy: a complete set of the drawings for the Los Angeles Westwood Replacement Hospital project weighed 2,000 pounds.
- Electronic drawings were set up for Rapid Review projects. Mr. Coleman described the process.
- With traditional review, the break-even point of the division fees to do the reviews versus the cost of the project came in at \$467,000. If the project cost less than that, the fee did not cover the cost of doing the reviews. More than 90% of the work falls under this category.

- 1 • With electronic review, the dollar value goes down by \$197,000 to \$270,000.
- 2 • With paper format, only one reviewer can access the file at a time.
- 3 • e-PlanSoft provides the following features.
  - 4 ○ It allows multiple disciplines to review concurrently.
  - 5 ○ It provides for the use of standard comments and provides a record of
  - 6 comments.
  - 7 ○ It provides for electronic stamping.
  - 8 ○ In the future, e-PlanSoft will be tied in with the Electronic Services Portal.
- 9 • In 2014, Rapid Review did approximately 41% of OSHPD plan approvals.
- 10 • Ms. Scaturro stated that her team takes in 8-10 reviews per day – a fairly high
- 11 volume. The e-PlanSoft software adds some tools that help the team speed up even
- 12 more; this could bring the break-even point down further.
- 13 • Ms. Scaturro demonstrated some of the tools on the e-PlanSoft Review Screen.
  - 14 ○ A greater array of drawing tools
  - 15 ○ The digital stamp
  - 16 ○ Review data for the current file
  - 17 ○ A running list of comments
  - 18 ○ Ease in adding comments
  - 19 ○ An array of standard comments
  - 20 ○ Overlay comparisons
  - 21 ○ A corrections report listing locations of comments
  - 22 ○ Clearing review items
  - 23 ○ Submittal guidelines: general formatting and recommendations

- 1           ○ A link for the vendor’s marketing video
- 2           • Mr. Coleman stated that OSHPD’s goal is for all staff, including field staff, to have
- 3           the capability for Electronic Plan Review by the end of this year.

- 4
- 5           • Discussion and Public Input

6           A committee member asked if it is possible to have a tagging prefix such as  
7           “Fire/Mechanical,” denoting the discipline. Ms. Scaturro replied that it was. Mr. Dunger  
8           stated that the tags would indeed denote the discipline.

9

10          Mr. Dunger answered an Interested Party that comments will not be available until the  
11          review – including all disciplines – is completed. The review will be uploaded to the  
12          Client Access website. OSHPD could do a special run at the request of a supervisor.

13

14          Mr. Gall asked how responders’ remarks are recorded. Mr. Dunger answered that they  
15          have a pdf file into which they can copy and paste.

16

17          Mr. Dunger stated that an owner will be able to see the same comments that the  
18          designer sees.

19

20          A committee member asked about color – it can make Life/Safety plans more  
21          comprehensible. Ms. Scaturro responded that color overlays will become confused in  
22          the comparison process. Mr. Coleman stated that staff would look into the color  
23          question.

24

1 Mr. Scheuerman asked about scalability – how large a file can the system handle? Mr.  
2 Dunger replied that this program was used to do the plan review for the new World  
3 Trade Center; the scalability is there.

4

5 Mr. Coleman stated that if the programs and licenses can be purchased in time, he  
6 would like e-PlanSoft to be in use office-wide by the end of the year.

7

8 Mr. Scheuerman asked about the potential for plan review productivity to be disrupted  
9 during the transition period. Mr. Coleman stated that the transition could be done in  
10 increments not detrimental to productivity.

11

12 **(3.) Presentation of “Emerging Technologies in Healthcare” by Shahrokh Sayadi,**  
13 **Sutter Health**

- 14 • Mr. Sayadi began with a historical perspective starting from the 1950s.
- 15 • He offered a quote: “Our blind spot comes from the fact that we have lived in a  
16 linear world. But today’s changes are exponential.”
- 17 • Mr. Sayadi showed the worldwide increase in Internet-connected devices from 2003  
18 through 2020.
- 19 • The smartphone is arguably the most versatile functional tool humans have ever  
20 used.
- 21 • Mr. Sayadi listed the technologies that are impacting healthcare.

- 1       ○ User-directed search and mobile search such as Google, Bing, etc. have  
2           enhanced learning and engaged consumers to take more active roles in their  
3           health.
- 4       ○ “Big Data” is increasing exponentially every 10 minutes. This can lead to  
5           improved patient experiences using mobile devices, numerical devices,  
6           treatments, and diagnostics.
- 7       ○ Interior mapping can be done, including indoor mapping within hospitals.
- 8       ○ The “Internet of Things” means that everyday objects have network  
9           connectivity, allowing them to send and receive data.
- 10      ○ Mobile diagnostics involve mobile phones enabling self-diagnostics, giving  
11          patients the tools they need to assess their own health at a low cost. An  
12          example is a heart monitoring device that connects to an iPhone, an ear view  
13          for parents to share images of a child’s ear canal and eardrum with a  
14          physician, and a glucose management meter that connects to an iPhone.
- 15      ○ Wearable and embedded technologies are devices that users wear to  
16          manage activities and report personal information, such as fitness bands and  
17          biosensor tattoos.
- 18      ○ Wellness apps and digital experiences (including wearable wireless sensors)  
19          enable users to track and manage their health graphically.
- 20      ○ 3D printing is a process of layering materials into objects defined by digital  
21          models. It is opening up new research and opportunities in healthcare.  
22          Bioprinting uses data from individual patients to replicate their organs.

1           ○ Robotic systems are increasingly augmenting and replacing humans in many  
2           functions of the healthcare industry including diagnostics, food service,  
3           medication distribution, surgery, and infection control.

4           • Many of these innovations have yet to be approved by the FDA – that process can  
5           take many years. However, this has not stopped research and development.

6

7           • Discussion and Public Input

8           Mr. Scheuerman observed that in looking at the methods, most of them rely on the  
9           capture of biometric data. He commented that much of these emerging technologies  
10          are intended to address the healthcare purposes of prevention and maintenance – with  
11          a corresponding effect on our facilities that must be determined.

12

13          A committee member observed that it seems that in the future we won't need as many  
14          buildings – we will need more flexibility in the existing buildings.

15

16          Mr. Scheuerman remarked that as we reduce the demand on acute services, we see  
17          acute patients in smaller numbers; this drives the cost up. Medicine has historically  
18          been a volume-based business. What happens to medical buildings when medicine  
19          ceases to be economically viable? Safety will have to be achieved by different means:  
20          different materials, different engineering, and different methods that will allow us to  
21          produce these facilities at an affordable cost.

22

23          Mr. Sayadi felt that the building process will involve robots and computers. OSHPD  
24          could review a project with supercomputers that check for code compliance,

1 automatically correcting any noncompliance. General contractors would send a project  
2 to subcontractors for fabrication or 3D printing of the various components, which are  
3 assembled in the field.

4

5 Mr. Coleman observed that the Affordable Care Act has affected the OSHPD workload  
6 – it is down 60%. Technology will probably reduce it further: many procedures that  
7 used to be done in hospitals, requiring a lengthy hospital stay, are now done as  
8 outpatient, at home, or in clinics.

9

10 He noted that IT systems now control all building functions. If the system goes down,  
11 how do you ensure that the building still functions? Disaster could come in the form of  
12 an earthquake or a hacker. We need to look at how to deal with these possibilities.

13

14 Mr. Scheuerman suggested that a sixth discipline could emerge in the plan review  
15 process around cyber-functionality of a facility.

16

17 Desiree Gandrup of Kaiser Permanente, manager of the IT relationship with National  
18 Facility Services, stated that their internal conversations from the security side focus on  
19 all devices that touch the network and ensuring that they are secure.

20

21 A committee member saw differing trends: the decentralization of the medical  
22 industries, with high-tech home apps – but at the same time people are moving into the  
23 population centers. The offshoot of this is the vulnerability to catastrophe of huge  
24 populations living together. Hospitals will always be necessary for treating large

1 numbers of patients in times of disaster, but on the other hand non-acute patients can  
2 now be treated from a distance without having to come to the hospitals.

3  
4 A committee member commented that in the future, flexibility will be key for hospitals:  
5 society cannot afford to have hospitals that are not continually in use.

6  
7 Mr. Sayadi noted that it is predicted that in 2025, a large percentage of patient visits to  
8 hospitals will no longer be necessary; patients will have the tools to communicate with  
9 doctors from home. The hospital of the future will be for the highest acuity – nothing but  
10 ICUs. The infrastructure for IT must be strong; data transmission will be higher in  
11 volume and will need to be fast.

12  
13 Mr. Scheuerman pointed out that the building code in California is driven by a 40-year-  
14 old clinical code. How do we bring the clinical code into the 20<sup>th</sup> century in order to  
15 leverage technology and bring the benefits to patients?

16  
17 Mr. Gall pointed out that in the world of codes and regulations, they have been looking  
18 at having a minimum requirement of IT space within health facilities. Facilities currently  
19 responding to all this change are shoehorning high-tech hardware into closets, utility  
20 rooms, and other inappropriate spaces.

21  
22 Ms. Gandrup responded that Kaiser is trying to drive more towards data centers which  
23 can be supported better with standard solutions that scale to all the facilities. With this

1 comes conversations with the manufacturers, making sure that they have solutions not  
2 designed to the local facility, but that can actually scale.

3

4 Mr. Coleman stated that hospitals are still in the free market: providers can decide  
5 whether or not they want to have a hospital in a city. The state cannot currently  
6 mandate it.

7

8 An Interested Party continued the thought that hospitals must be flexible, perhaps using  
9 their facilities for health education; if a disaster should occur, they can gear up. A  
10 challenge to this group will be how to decide which facilities have flexibility.

11

12 Mr. Coleman mentioned the model of the variable acuity patient room, depending on the  
13 need of the hospital on any given day.

14

15 Mr. Scheuerman believed that the state needs to develop an emergency response  
16 strategy that doesn't rely on the hospital. Mr. Karpinen expressed concern about the  
17 smaller facilities that don't have the infrastructure of Kaiser or Sutter.

18

19 A committee member suggested teaming for disasters with the large casinos, which  
20 have space. Mr. Gall remarked that the hotel industry actually has good models as well.

21 Mr. Coleman commented that hospitals currently have emergency plans in place  
22 involving such things as the "surge tents" used in Napa.

23

1 An Interested Party affirmed that the state government ultimately relies on the hospitals.  
2 The National Disaster Medical System has mobile field hospitals, but they are looking  
3 for funding to continue to support them; they are still dependent on hospital expertise for  
4 administration as well as delivery of care. She also mentioned that statistics have  
5 shown that in prior disasters across the country, the majority of injuries have been more  
6 of the minor type.

7

8 Mr. Coleman answered a question about OSHPD funding: it is fee-funded and receives  
9 nothing from the General Fund. Mr. Foulkes commented that if it is best for small  
10 hospitals to change to the flexible structure, that involves many small projects expensive  
11 for OSHPD to process. Mr. Coleman stated that this is why OHSPD is looking for ways  
12 of doing the work more efficiently and productively. It has imposed a hiring freeze on  
13 itself and restricted overtime for employees. Contracting out has decreased.

14

15 He continued that OSHPD's first step has been to reduce the budget by \$10 million a  
16 year; this is on target. The second step has been to push the Department of Finance  
17 and the Administration to repay the \$95 million loan from the Hospital Building Fund.

18

19 Mr. Foulkes mentioned changes in the fee structure. Mr. Coleman stated that there are  
20 areas where OSHPD is trying to provide a higher level of service for an increased fee.

21

22 Mr. Coleman mentioned that OSHPD loses a lot of money on Post-Approval  
23 Documents. OSHPD can respond by better training staff and the industry on the Non-

1 Materially Alter. Also, if a hospital changes the scope of a project, then by regulation it  
2 is supposed to be a new project.

3

4 An Interested Party asked how OSHPD can keep from inhibiting progress with the new  
5 technologies emerging and the lack of code categories for them. The need for new  
6 technologies to be planted in hospitals will be occurring faster than any code  
7 development to regulate them. Mr. Coleman responded that this is already in the  
8 building code in 1224 – it allows hospitals to use new technology and medical care  
9 processes. It requires a program flex and alternate methods of compliance. Licensing  
10 must also buy in from the operational standpoint. An example would be interventional  
11 radiology – until now there has been no code for it, but a number of those rooms have  
12 been developed.

13

14 Mr. Coleman continued that this is part of the reason that OSHPD developed the  
15 Functional Program requirement; it better explains the intent and support of the concept.  
16 Those projects now go to Licensing when they come in, with timeframes attached.

17

## 18 **5. Review and approve proposed Technology Workshop(s) Topics**

19 Mr. Karpinen offered to act in place of the Chair and Vice-Chair in their absence for this  
20 agenda item.

21

22 Ms. Scaturro asked if any of the topics just discussed should be captured in this agenda  
23 item. A committee member suggested “The Future of Healthcare Facilities.”

24

1           **1. “Building System Technologies” (HVAC Controls, IP Based Equipment,**  
2                   **Wireless Systems)**

3 Mr. Karpinen stated that the plan is to have people from the BMS industry come in and  
4 talk about HVAC controls they are seeing in hospitals and new technologies.

5  
6 Regarding the IP Based Equipment portion, Ms. Gandrup said that her hospital is  
7 putting security cameras on the IP network. An Interested Party said that for access  
8 control, auditing used to be on standby systems; now they are coming online and  
9 interacting.

10  
11           **2. “Clinical Systems” (Electronic Health Records, Pyxis, Radiology,**  
12                   **Biomedical Equipment)**

13  
14           **3. “Building Design Technology / Construction Support Technologies” (3D**  
15                   **Modeling, BIM, Plan Review Technologies, Electronic Review and Tracking)**

16  
17           • Discussion and Public Input

18 The group discussed the purpose of the workshops. At this point the workshops are  
19 fact-finding: what is the building technology being used; how is it being used; what is  
20 anticipated for the future; how does that impact construction; what is OSHPD’s role?

21 Expert speakers from industry will educate the committee. The workshops will be open  
22 to everyone.

1 A committee member proposed that a small focus group together with some IT experts  
2 develop a problem statement in order to set a path for resolution.

3

4 Mr. Coleman offered the question of medical records as an example. As they become  
5 electronic, the large record file storage rooms are not needed. We need to consider  
6 getting rid of them altogether while ensuring that there is enough redundancy and  
7 capability to maintain electronic medical records in a time of disaster.

8

9 Mr. Gall brought up another example: the elevated code requirements for essential IT –  
10 but what is “essential”? The national standards have not categorized what fits under the  
11 requirements.

12

13 Mr. Coleman felt that the area of tele-health would fall under the category of Building  
14 System Technologies. He felt that most of the new technologies that the committee is  
15 looking at would fit into one of the three categories listed for workshops.

16

17 He stated that robotics are currently viewed as Building System Technologies: they  
18 need a garage, they have to be charged, they have to get through smoke barrier doors,  
19 and they interact with fire alarm systems.

20

21 A committee member suggested that many of the topics could be bracketed by current  
22 state, future state, and code – whether code accommodates it now or would have to be  
23 modified. A vulnerability/risk factor analysis may also be beneficial.

24

1 Mr. Coleman suggested working on Building Systems Technology as the first workshop.  
2 Potential industry presenters need to be identified. Mr. Karpinen said that he and Mr.  
3 Johnson had a number of contacts who would be willing to speak about HVAC controls.

4  
5 The group decided on having Ms. Janssen find a location for the workshop, then  
6 identifying available dates. These would be posted on the HBSB website and people  
7 would respond with their preferences. May would be the target month to hold the first  
8 workshop.

9  
10 A committee member stressed that presenters must know that the workshops are for  
11 educational purposes and not for sales pitches. Mr. Coleman said that discussion  
12 should take place after the presentations.

13

14 **6. Develop List of Potential Industry Presenters for Each Proposed Workshop**  
15 **Topic Listed in Item #5 Above**

16 Mr. Karpinen stated that the committee had already covered Item #6.

17

18 **7. Establish Future Technology Committee Meeting Dates and Potential**  
19 **Technology Workshop Dates**

20 Ms. Janssen inquired as to whether the committee wanted another meeting prior to the  
21 workshop. They felt it unnecessary.

22

23 **8. Comments from Committee Members and the Public on Issues Not on This**  
24 **Agenda**

1 There were no further comments.

2

3 **Adjournment**

4 Mr. Karpinen adjourned the meeting at 12:38 p.m.

5