

Hospital Building Safety Board

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MEETING REPORT**HOSPITAL BUILDING SAFETY BOARD
Ad Hoc Committee on Humidification****Tuesday, July 22, 2008**

Office of Statewide Health Planning and Development
1600 9th Street, Room 470
Sacramento, CA 95814

Committee Members Present

Tony Moddesette, Chair
John Littrell, Vice Chair
Vernon Brown
Marguerite Jackson
Robert Kennard
Michael O'Connor
Brian Spindler

OSHPD Staff Present

Duane Borba
David Keast, Legal Counsel

HBSB Staff

Gabi Coronel
Chris Mooring

Consulting Member

Scott Karpinen, Consulting Member

1 Welcome and Introductions

2 Committee Chair, Mr. Tony Moddesette called the meeting to order at 10:00 a.m. and asked
3 participants to introduce themselves.

4

5 Review and Approve April 29, 2008 Meeting Report

6 Mr. Scott Karpinen noted a correction to the minutes as follows: The statement shown on
7 Page 6, line 8 was not made by him. Mr. Moddesette asked Ms. Gabi Coronel to review



1 the tape to identify who made this statement. (Subsequently, Ms. Coronel reviewed the
2 recording and determined that the statement was made by Mr. John Littrell.)

3

4 **A Motion was made and seconded to approve the April 29, 2008 meeting report as**
5 **amended. The Motion carried unanimously.**

6

7 **Review and Discuss Expert Information and Data Submittals**

8 Mr. Moddesette noted the following action items from the last meeting: (1) Mr. John Littrell
9 requested obtaining copies of two source documents from the American Institute of Architects
10 (AIA) guidelines; (2) Dr. Jon Rosenberg to contact Dr. Andy Streifel to obtain data from
11 California Society for Healthcare Engineering (CSHE) members showing how often humidity
12 levels in operating rooms drop below 30 percent. An e-mail had been received by Dr. Rosenberg
13 stating that he received the information from Dr. Streifel and once he summarizes it he will send
14 it out. Dr. Rosenberg was not in attendance and there was concern that he had not been notified
15 of this meeting. It was suggested to call Dr. Rosenberg to conference him into the meeting;
16 however, he was not available.

17

18 Ms. Marguerite Jackson noted that she did contact the Association of Operating Room Nurses
19 (AORN) and the Association of Professionals in Infection Control (APIC) for data on actual
20 humidity levels and use of humidifiers. She was informed that they follow the AIA and AORN
21 guidelines.

22

1 Mr. Karpinen contacted American Society of Heating, Refrigerating, and Air Conditioning
2 Engineers, Inc. (ASHRAE) for information on the basis of their values and was informed that
3 their basis for the relative humidity was not based on scientific information but on past practices.

4
5 Mr. Karpinen asked if there is currently a standard in the Office of Statewide Health Planning
6 and Development (OSHPD) regulations. Mr. Moddesette said there is a standard that requires 30
7 percent minimum relative humidity in special use rooms. The purpose of this particular action
8 item is to learn the scientific reasoning regarding humidity. He has not been able to find any
9 compelling data that shows 30 percent is directly related to patient safety and patient care.

10

11 Mr. Brian Spindler mentioned that he spoke to his doctor about this issue. He was told that it is
12 important for patients who have a good deal of burns over their body to maintain their moisture.
13 There could be a problem with those patients not having enough humidity in the air. In addition,
14 when surgery is performed and blood is exposed, scabbing can occur faster if there is low
15 relative humidity. However, there is no scientific data to back up this up.

16

17 Mr. Littrell commented that if this Committee is going to relax the humidity requirements there
18 are two reasonable ways to approach it: (1) get an informed medical opinion that a lower
19 humidity is acceptable; or (2) broaden the interpretation of current regulations.

20

21 Mr. Moddesette said infectious control and static electricity are the two issues. He has not been
22 able to obtain good data regarding static electricity. Mr. Moddesette said out of the 450 hospitals
23 in California probably 440 have their humidifiers off. The humidifiers have been sitting so long
24 that as soon as they are turned on they do not operate correctly and the ducts are flooded with

1 moisture causing an infectious mold environment. Mr. Duane Borba asked Mr. Moddesette how
2 he arrived at the 440 number. Chair Moddesette said he cannot back that figure up but the vast
3 majority of people he speaks to in the hospital industry have their humidifiers turned off.

4
5 Ms. Jackson said humidity is only one of many factors that relate to an infection risk. There
6 would need to be thousands of data points to make any correlation that links infection outcome
7 with a factor such as humidity. Many of the recommendations are not so much about infection
8 risk as they are about fire caused by static electricity. The concern is in the humidity at the
9 lower end.

10
11 Mr. Borba said that ASHRAE and the AIA guidelines both have tables showing the relative
12 humidity that should be maintained in certain sensitive rooms. Over the years, OSHPD has
13 adopted the ASHRAE and AIA guidelines. The Sterling bar graph (see April 29th meeting
14 packet, Attachment C1 page 20) has had a profound effect on ASHRAE's table. Until 1981 the
15 acceptable range of relative humidity was between 20 and 60 percent. However, sometime after
16 1981 the range was changed to between 30 and 60 percent and OSHPD has adopted these
17 guidelines.

18
19 Mr. Borba said he withdrew his proposed amendment to OSHPD because he feels this issue
20 needs further study. The 0.05 percent exception is being noticed for 15 days in which the public
21 can comment on the changes.

22

1 Mr. Borba said he looks forward to the recommendation from this Committee. He believes the
2 requirements should be loosened but it needs to be a well thought out justified change. Since Dr.
3 Rosenberg has information from Dr. Streifel, he may hold the key to what this Committee needs.

4
5 Mr. Moddesette said the issue still remains that there is no data on static electricity. Ms. Jackson
6 asked who the experts are regarding static electricity. It was mentioned that the electrical
7 engineers would most likely have this information and the Institute of Electrical and Electronics
8 Engineers (IEEE).

9
10 Ms. Jackson said the information that she and Dr. Rosenberg have gathered could take care of
11 the infection control issues on the high side. The static electricity is something that is on the low
12 side and some resource should be found to provide more information. Mr. Moddesette asked to
13 have Mazzetti & Associates look into research data that can show what the affect of humidity is
14 at different levels.

15
16 Ms. Jackson said the concern is flammables, particularly alcohol, ignition sources (laser), and
17 oxygen enriched environment. The implant electrodes experts might also have some input on
18 this issue.

19
20 At this point Dr. Rosenberg joined the meeting via telephone and offered the following
21 information: He had asked Dr. Streifel if he might be able to make a recommendation for a
22 range of low humidities. Dr. Streifel responded by saying that an event happened in Minnesota
23 involving a burn to a child where low humidity was thought to contribute to the sparking. The
24 report stated there may have been potential combustion with oxygen in the area in humidity of

1 around 15 percent. He said there are two issues: (1) this is a single event; and (2) if there was a
2 sparking event with humidity of 15 percent is this low of a percentage relevant to this discussion.

3

4 Mr. Moddesette asked Dr. Rosenberg if he might forward the report and any other information
5 for this occurrence to the Committee.

6

7 Dr. Rosenberg said he does not believe that low humidity and the susceptibility of respiratory
8 virus is the issue; the real issue is at what humidity is there a concern about static electricity and
9 sparking. He pointed out that the Committee should find someone who has expertise in this
10 arena.

11

12 Mr. David Keast reported that the range is currently 30-60 percent. He asked Dr. Rosenberg,
13 based on what he knows, would he recommend changing this range. Dr. Rosenberg said the
14 only thing that he can affirm is there is no infectious disease concern at the range of humidities
15 being discussed. This is Andy Streifel's opinion as well. The static electricity issue is out of his
16 range of expertise.

17

18 Mr. Littrell asked if, from the infectious control perspective, who might send the Committee a
19 letter advising that 20 percent is fine. Dr. Rosenberg said he would feel comfortable writing a
20 letter to the Committee stating that "levels that patients are comfortable breathing and healthcare
21 workers are comfortable working in do not pose a significant increase for risk of infection".

22

1 Dr. Rosenberg stated that it would be helpful to have data showing what percentage of time any
2 hospital would be below 30 percent. Mr. Moddesette mentioned the Committee does have some
3 data and he will forward it to him via e-mail.

4
5 Dr. Rosenberg said it could be said that there is not convincing evidence of significant increased
6 risk between 20 and 30 percent but there is also not sufficient data to say there is not any
7 significant increase. This would need to be balanced as to what the benefit is of lowering the
8 humidity from 30 to 20 percent. He would not recommend anything lower than 20 percent.

9 Dr. Rosenberg offered to do some research and work with Ms. Jackson to provide their opinions
10 regarding this matter.

11
12 It was stated that, because California's weather is unique it should break away from the national
13 range (30-60 percent) in order to save money. Mr. Moddesette said if Dr. Rosenberg is okay
14 with 20 percent as far as infectious control then the next step should be to look at the physics
15 side to see if 20-30 percent is a safety hazard for static electricity. Once Mazzetti & Associates
16 reviews this issue they can provide the Committee with what the effects of humidity is on
17 generating static electricity.

18
19 Mr. Borba mentioned that if there is going to be deviation from the national standard then he
20 would feel more comfortable looking at deviating from the "range" by setting a different range.
21 He believes the recommendation to OSHPD should be a lower range and the Committee should
22 stay away from "how many hours".

23

1 Ms. Jackson asked what the likelihood is that the California Building Standards Commission will
2 accept a deviation from national standards. Mr. Borba asked what the likelihood would be that
3 ASHRAE or AIA would change the humidity range. He asked if any Committee members might
4 be able to attend, or somehow get input, from the ASHRAE or AIA meetings.

5
6 In answering Ms. Jackson’s earlier question regarding what the likelihood is that the California
7 Building Standards Commission would accept a deviation from national standards Mr. Borba
8 said that years ago most everything submitted by agencies were approved by the Commission.
9 However, now there are advisory committees that review proposed changes and it will depend on
10 the particular committee as to whether they agree with the deviation from national standards
11 regarding humidity.

12
13 **Determine Next Steps and Future Agenda Items**

14 Mr. Borba said before he approaches the Commission, the Hospital Building Safety Board
15 (Board) would need to approve any proposed changes. Mr. Moddesette recommended that once
16 Mazzetti & Associates responds to the static discharge, and when the Committee receives Dr.
17 Rosenberg and Ms. Jackson’s response regarding the infectious issue, then recommendations
18 regarding humidity can be defined.

19
20 Mr. Moddesette said he will speak to his surgery staff to get a list of all the medical equipment
21 that is used in their rooms. Once he has this information he will contact the manufacturers to get
22 their cut sheets so he will have some hard data regarding the equipment. He would also like to
23 see what other states have in their codes relative to this issue and asked Mr. Borba to look into
24 this matter.

1 All of the above information should be sent to Ms. Coronel for distribution to the Committee
2 members. This will be presented at the next meeting in hopes to finalize this issue.

3

4 It was noted that any amendment should provide OSHPD with a clear recommendation, i.e., not
5 only changing the range but also specifying under what conditions a humidifier would not have
6 to be installed.

7

8 **Schedule Next Committee Meeting**

9 It was the general consensus that the next meeting will be held on September 30, 2008 in
10 Sacramento.

11

12 **Comments from the Public/Board Members on Issues not on this Agenda**

13 Mr. Dave Foley said he had a question on the previous meeting report: on page 9, “Ms. Jackson
14 asked how the range is enforced. Mr. Borba said OSHPD conducts inspections ... “ Mr. Borba
15 said with new construction OSHPD would enforce the fact that a humidifier has been installed, it
16 is tested, and the Area Compliance Officer (ACO) is shown. Mr. Foley said he has never seen
17 this occur.

18

19 **Adjournment**

20 There being no further business, a motion was made and seconded to adjourn the meeting. The
21 motion was carried unanimously and the meeting wad adjourned.

22

23 Prepared by Peters Shorthand Reporting