

**Washington State
Department of Health**

Workshop 2

Review Comments on Proposals to

Modify Rules

Chapter 246-320 WAC

(Construction Standards only)

Agenda

December 5, 2018

Public Workshop Meeting 2 – Review Comments on Draft Proposals

December 5, 2018

9 a.m. – conclusion of discussion

Department of Health

Tumwater Campus, TC2, Room 158

111 Israel Road SE, Tumwater, WA 98501

This meeting is to review each comment submitted during the proposal period. This includes the draft proposal to adopt the 2018 version of the Facility Guidelines Institute (FGI)'s *Guidelines for Design and Construction of Hospitals* and *Guidelines for Design and Construction of Outpatient Facilities*. Attendees will have an opportunity to speak on any comment or proposal and make advisory opinion to either support or not support each concept during the meeting.

Agenda:

1. Introductions
2. Quick review of rule making process
3. Review agenda
4. Review comments on proposals (order shown in this document)
5. Questions and next steps

Next Steps:

After this meeting, the Department of Health (DOH) will publish the Report on Comments.

The department will perform an internal review and generate the draft rule. We anticipate filing the draft rules in a CR-102 in spring 2019. The next public meeting to review this revised draft will be in spring 2019. The meeting date and location will be published on our website and announced via the construction review listserv.

DOH Contacts:

Bart Eggen, Deputy Director Community Health Systems

John Williams, Manager, Construction Review Services (CRS)

Susan Upton, CRS Plans Reviewer

Marlei' LaChance, CRS Project Coordinator

CRS office phone: 360-236-2944

CRS General email box: crs@doh.wa.gov

Proposal 001:

Submitter: Susan Upton

Section: Hospital 2.2-3.4.2.1 Imaging Room Classification

Proposal: Revise text as follows:

2.2-3.4.2 Imaging Rooms

2.2-3.4.2.1 General

(1) The requirements in this section shall apply to imaging rooms for all modalities except where indicated.

(2) Where an Imaging room will be used for Class 1 and Class 2 procedures, the more stringent for the higher class shall be followed.

(3) Where imaging procedures meeting Class 3 criteria are performed, a room(s) that meets the requirements for the applicable imaging suite and for an operating room (see Section 2.2-3.3.3, Operating rooms) shall be provided. An operating room that meets the requirements in Section 2.2-3.3.4 (Hybrid Operating Room) shall be permitted to meet this requirement.

(4) Cardiac Catheterization Labs shall meet the requirements of operating rooms, including meeting the operating room requirements in ASHRAE 170.

Statement of Problem and Substantiation:

The proposal attempts to clarify how the 2018 version of the FGI classifies cath labs. The 2018 version of the guidelines divide imaging rooms into three semi-distinct categories: Class 1, 2 and 3. The differences between the classifications and the requirements for each can be found in this section and Table 2.2-2 (page 219) in the Hospital book. Looking at the table, it's not entirely clear where the cath lab fits. EP labs are described in Class 2, but invasive procedures are clearly put in Class 3. Our understanding of this change is to identify and mitigate the risks associated with invasive procedures in any diagnostic space. We have certainly seen an increased prevalence and desire to do more and more invasive procedures in the cath lab.

This proposal takes the most restrictive approach by calling all cath labs operating rooms regardless of function. We believe this impacts the built environment in three specific ways:

- Finishes: the biggest change is hard lid ceiling requirements in cath labs, currently special suspended ceilings are allowed.
- Ventilation: Air changes would be increased from 15 to 20 air changes per hour. Also a specific diffuser array would be required over the table and low-wall returns.
- Access to the cath lab would be from a restricted area (behind the red line).

Other information:

Reference Glossary Invasive procedure: ... “An invasive procedure may fall into one or more of the following categories:Does not begin as an open procedure but has a recognized measurable risk of requiring conversion to an open procedure.”

Cath Lab room classification was brought up by Doug Erickson at the 2018 ASHE Annual Seattle Conference and the audience vote was overwhelmingly in support of the Cath Lab as Class 3/ OR setting.

Cost Impacts: The installation cost for a smooth clipped acoustical ceiling and a hard lid are pretty similar, the major cost impact would be the difficulty of access during normal operation. We roughly estimate a \$10,000 increase for extra mechanical costs. Semi restricted access is operational with limited construction cost.

Benefits: Clarity, and additional safety for rooms that perform more invasive procedures.

Discussion Notes from 10/01/2018 meeting: *The reason behind this proposal is recent national discussions that propose cath lab facilities should be treated more like operating rooms. This appears to be driven by the frequency of more intensive procedure in cath lab such as cardiac valve replacement and TAVR procedures.*

Question: *would this require hard lids in all cath lab?*

Answer: *Yes, as written all cath labs would be required to have hard lid ceilings.*

Question: *Would this apply to existing cath labs?*

Answer: *As written, this would only apply to new cath labs or portions of cath labs that are being renovated.*

Question: *What percentage of cath labs require conversion to open procedures? What is a reasonable percentage? Attendees were not able to provide a definitive answer.*

Attendees discussed the idea of defining a threshold where the procedures within a cath lab would prompt treatment like an operating room vs a traditional design. The current proposal is a one size fits all approach. The question became, if there were a two tier approach – what would be a clearly identifiable threshold that we could use to categorize a cath lab as “low level” vs “high level”. Could procedures that are only diagnostic be designed as a traditional cath lab (low level) and cath labs that provide interventional procedures be designed as ORs (high level)?

Attendees pointed out that this would significantly alter the operational procedures around access to the cath lab. This would place the cath lab behind the red line and thereby prompt a different traffic flow. DOH staff pointed out that the proposal could be re-written to apply only portions of the operating room requirements. For example a cath lab could be required to follow the finish and ventilation requirements, but not the access requirements.

Advisory opinion: *Generally public attendees preferred a two-tier approach, if any change was made at all. DOH would like specific input on:*

- A) *What the identifiable threshold between “low level” cath lab and low level” cath lab should be.*
- B) *Which finish, ventilation and access requirements should apply to each condition.*

Comments on Proposal 001:

Submitter: Cory Hamilton, UWMC

Section: Hospital 2.2-3.4.2.1 Imaging Room Classification

Position: Support with modifications as follows:

“(1) The requirements in this section shall apply to imaging rooms for all modalities except where indicated.

(2) Where an Imaging room will be used for Class 1 and Class 2 procedures, the more stringent for the higher class shall be followed.

(3) Where imaging procedures meeting Class 3 criteria are performed, a room(s) that meets the requirements for the applicable imaging suite and for an operating room (see Section 2.2-3.3.3, Operating rooms) shall be provided. An operating room that meets the requirements in Section 2.2-3.3.4 (Hybrid Operating Room) shall be permitted to meet this requirement.

(4) Cardiac Catheterization Labs for procedures more invasive than percutaneous shall meet the requirements of operating rooms, including meeting the operating room requirements in ASHRAE 170.”

Statement of Problem and Substantiation for Comment:

“UW Medical Center’s Cardiac Procedures team, Epidemiologists and Design/Construction Management team met multiple times to review this proposal. The two things that came out of these meetings were:

1. UWMC agrees that invasive procedures should not occur in Class 2 Cardiac Catheterization labs
2. UWMC believes that Class 2 Cardiac Catheterization Labs should not be eliminated

99% of all coronary procedures done at UWMC are percutaneous and are done in traditional Cath Labs. Patients and CT Scans are reviewed ahead of time and any “cutting” or invasive procedures are scheduled for the Hybrid OR (less than 1%). Since every patient procedure done in our Cath Labs are percutaneous, UWMC does not believe Cath Labs need to meet OR Requirements.

The proposal as written would require all Cath Labs to meet OR requirements which as previously stated, seems inappropriate for the level of invasiveness of procedures done in Cath Labs. We believe this solution is an overkill to the real issue; the real issue is identifying what type of procedures should be done in a Class 2 Cath Lab and what types of procedures should be done in a Class 3 Cath Lab. Hospitals should have the capability to have both Class 2 and Class 3 just like

hospitals are able to have exam rooms, treatment rooms, procedure rooms and operating rooms. The type of procedures planned for the room dictate what type of room should be designed.

UWMC recommends adding language clarifying that percutaneous procedures can be done in Class 2 Cath Labs but “cutting” or doing any procedures more invasive than percutaneous should be done in a Class 3 Cath Lab. We believe adding this language keeps the intent of the 2018 FGI code by allowing traditional Cath Labs but also addresses DOH’s concern regarding procedures being done in Cath Labs that are not safe for the patient.”

Cost Impacts: “This change will not increase construction cost.”

Benefits: “ “

Submitter: Larry Humphreys, Humphreys LLC

Section: Hospital 2.2-3.4.2.1 Imaging Room Classification

Position: Support

I would like to see more substantiation that making this change will have a positive impact on infection rates in Cath Labs.

Statement of Problem and Substantiation for Comment: My biggest concern with your proposal 1 is I think the total cost may be closer to \$50,000 to \$100,000 per room.

Cost Impacts: There will definitely be an increase in construction cost, particularly in remodeled Cath Labs.

Benefits: None stated

Proposal 002:

Submitter: Susan Upton

Section: Outpatient 2.1-3.5.1.2 Imaging Room Classification

Proposal: Revise text as follows:

2.1-3.5.1 General

2.1-3.5.1.2 Imaging room classification.

To differentiate the design and construction requirements needed to achieve the environmental controls and other requirements that support the amount of intervention to be provided, imaging rooms shall be classified as described in Table 2.1-5(Classification of Room Types for Imaging Services). Cardiac Catheterization Labs shall meet the requirements of operating rooms, including meeting the operating room requirements in ASHRAE 170.

Statement of Problem and Substantiation:

This is identical to proposal 001, only difference is this applies to outpatient.

Cost Impacts: This is identical to proposal 001, only difference is this applies to outpatient.

Benefits: This is identical to proposal 001, only difference is this applies to outpatient.

Discussion Notes from 10/01/2018 meeting: *This is essentially the same proposal as proposal 001, except this would apply to outpatient facilities. Attendees generally felt that the questions, discussion and ideas expressed for proposal 001 would generally apply to this proposal as well. It was noted that outpatient facilities should inherently be involved in less risk procedures. One attendee noted that many of the more invasive procedures are not allowed by current state law.*

Advisory Notes: *Generally public attendees preferred a two-tier approach, if any change was made at all. DOH would like specific input on:*

- A) *What the identifiable threshold between “low level” cath lab and low level” cath lab should be.*
- B) *Which finish, ventilation and access requirements should apply to each condition.*

Comments on Proposal 002:

Submitter: Cory Hamilton, UWMC

Section: Outpatient 2.1-3.5.1.2 Imaging Room Classification

Position: Support with modifications as follows:

“To differentiate the design and construction requirements needed to achieve the environmental controls and other requirements that support the amount of intervention to be provided, imaging rooms shall be classified as described in Table 2.1-

5(Classification of Room Types for Imaging Services). Cardiac Catheterization Labs shall meet the requirements of operating rooms, including meeting the operating room requirements in ASHRAE 170. Cardiac Catheterization Labs for procedures more invasive than percutaneous shall meet the requirements of operating rooms, including meeting the operating room requirements in ASHRAE 170.”

Statement of Problem and Substantiation for Comment:

“UW Medical Center’s Cardiac Procedures team, Epidemiologists and Design/Construction Management team met multiple times to review this proposal. The two things that came out of these meetings were:

1. UWMC agrees that invasive procedures should not occur in Class 2 Cardiac Catheterization labs
2. UWMC believes that Class 2 Cardiac Catheterization Labs should not be eliminated

99% of all coronary procedures done at UWMC are percutaneous and are done in traditional Cath Labs. Patients and CT Scans are reviewed ahead of time and any “cutting” or invasive procedures are scheduled for the Hybrid OR (less than 1%). Since every patient procedure done in our Cath Labs are percutaneous, UWMC does not believe Cath Labs need to meet OR Requirements.

The proposal as written would require all Cath Labs to meet OR requirements which as previously stated, seems inappropriate for the level of invasiveness of procedures done in Cath Labs. We believe this solution is an overkill to the real issue; the real issue is identifying what type of procedures should be done in a Class 2 Cath Lab and what types of procedures should be done in a Class 3 Cath Lab. Hospitals should have the capability to have both Class 2 and Class 3 just like hospitals are able to have exam rooms, treatment rooms, procedure rooms and operating rooms. The type of procedures planned for the room dictate what type of room should be designed.

UWMC recommends adding language clarifying that percutaneous procedures can be done in Class 2 Cath Labs but “cutting” or doing any procedures more invasive than percutaneous should be done in a Class 3 Cath Lab. We believe adding this language keeps the intent of the 2018 FGI code by allowing traditional Cath Labs but also addresses DOH’s concern regarding procedures being done in Cath Labs that are not safe for the patient.”

Cost Impacts: “This change will not increase construction cost.”

Benefits: “ “

Proposal 003:

Submitter: Susan Upton

Section: ASHRAE Standard 170 - 7.4.3

Proposal: Revise text as follows:

7.4.3 Imaging Procedure Rooms. If invasive procedures occur in this type of room, ventilation shall be provided in accordance with the ventilation requirements for procedure rooms. ~~If anesthetic gases are administered, ventilation shall be provided in accordance with the ventilation requirements for operating rooms.~~

Statement of Problem and Substantiation:

This proposal is intended to provide clarification and eliminate conflicts with Table 8.1 Design Parameters – Hospital Spaces. Some people interpret that the sentence being removed applies to all of Table 8.1. This table includes specific requirements for X-ray (surgery/critical care and catheterization) positive pressure, (3) outdoor and (15) total ach.

Other people believe this only applies to the OR ventilation requirements (in addition to table 8.1) are provided under section 7.4 which addresses: room controls, supply diffuser array and low returns. Requiring a room to meet invasive procedure requirements (and need for OR level ventilation) just because they use of anesthesia gas is not founded. As an example, nitrous oxide

could be used in a pediatric MRI that is diagnostic only. Additional OR ventilation requirements would not be needed in this case.

This proposal completely eliminates the requirement and potential confusion. Refer to proposal 001 and 002 for direction on ventilation in Cath Labs.

Cost Impacts: Removes cost.

Benefits: clarity, directs effort and attention to risks more appropriately

Discussion Notes from 10/01/2018 meeting: *In essence, this proposal seeks to resolve the question: does the presence of anesthetic gas automatically change the risk of an imaging to be equivalent to an operating room? Attendees offered several scenarios where this condition did not warrant the extra precautions. The current code as written appears to only apply to the diffuser array, individual room control and other items specifically listed in 7.4. It was noted that the upcoming ASHRAE 170 committee meeting may provide some additional information regarding the intent of this section. As proposed, the requirement would be struck – and we would rely on the outcome of proposal 001 and 002 to describe for us what the arrangement and capacity of the HVAC system is.*

Advisory Notes: *Attendees generally did not oppose this change.*

Comments on Proposal 003: None submitted.

Proposal 004:

Submitter: John Williams

Section: ASHE 170 – Section 6.1.2.3

Proposal: Add new section as follows:

6.1.2.3

Systems that provide heating whose source is dependent on variables outside of the facilities direct control shall provide a redundant heating source to provide the capability of maintaining the internal temperatures listed in Table 7-1. Examples of these types of systems include but are not limited to solar heating, heat pumps, geothermal heat, and variable refrigerant flow systems.

Exception: The facility or designer can demonstrate through independent engineering analysis and commissioning that the system is capable of maintaining facility temperature that support the facility operational plan. This includes continuity of operations, continuous operation of water-based systems and equipment, and patient care and comfort.

Statement of Problem and Substantiation:

Some of the new energy efficient HVAC systems are dependent on environmental factors – outside air temperature, sunlight, etc. The manufacturers of these system are developing more powerful and effective systems which may or may not meet the operational needs of a healthcare facility. The codes and standards have not adequately addressed these new systems and warrant some functional consideration. Since the effectiveness of these system depend on a factor that is out of the facility’s control, we believe that some level of redundancy should be required to maintain reasonable operation.

This proposal provides that redundancy only for those facilities that choose to use these systems. It does not specific the method of redundancy (electric reheat, hydronic, etc.) it only requires that the redundant system maintains temps inside of the facility. An exception is allowed to pursue an alternate path, and it provides some validation that the system will perform.

This addresses a gap in the code, and will allow CRS to prevent design that put facilities in jeopardy.

Cost Impacts: We estimate approximately \$6.50 per square foot cost increase to those facilities that choose these systems.

Benefits: Hospitals will be more resilient and maintain continuous operations longer.

Discussion Notes from 10/01/2018 meeting: Question: *Which systems are being addressed?*

Answer: *Heating systems, specifically those that rely on weather or other variable environmental sources. Anything that may not function appropriately due to a situation outside of a facility’s direct control (cloud cover, uncharacteristically cold outside temperatures, etc).*

Question: *Is this a response to a known, actual problem?*

Answer: *Yes. There have been limited, but significant, adverse impacts within the state.*

Attendees discussed the concepts of pre- vs. post-commissioning. There is a risk to the facility if the construction is completed and the facility fails post construction commissioning. Commissioning is a requirement. Maybe the exception should read the “analysis or a pre-commissioning report”. The pre-commissioning report is something that you can compare to previous projects. Then allow for quarterly post-commissioning processing. This may inform contract language – maybe it’s a requirement for in the contract.

Attendees pointed out that this may discourage people from pursuing energy efficient projects. John pointed out that is not the intent, rather it’s to ensure that these projects are sustainable and functional. If bad outcomes persist, this would also discourage facilities from pursuing these projects.

Advisory Opinion:

Comments on Proposal 004:

Submitter: Larry Humphreys, Humphreys LLC

Section: ASHE 170 – Section 6.1.2.3

Position: Support

Statement of Problem and Substantiation for Comment: It looks to me like there is an unintended consequence the way it's written. Heating sources outside of the Facilities direct control include both natural gas and district steam. I believe that the resiliency should be required for all hospitals, but wanted to pass on the comment.

Cost Impacts: Not stated

Benefits: Not Stated