

**OKLAHOMA UNIFORM BUILDING CODE COMMISSION**

**ALTERNATIVE FUELS PROGRAM TECHNICAL COMMITTEE  
MEETING MINUTES**

**CONSTRUCTION INDUSTRIES BOARD/UNIFORM BUILDING CODE COMMISSION  
CONFERENCE ROOM  
2401 NW 23RD STREET, SUITE 2F  
OKLAHOMA CITY, OK 73107  
JUNE 27, 2016 - 1:30 P.M.**

**COMMITTEE MEMBERS PRESENT:**

Greg Armstrong (left at 3:00 p.m.), Anthony Blatt, Angelia Cobble, Eric Pollard, Tom Sewell, Adam Shupe, and Cary Williamson (left at 4:05 p.m.)

**ALTERNATE MEMBERS PRESENT:**

None

**COMMITTEE MEMBERS ABSENT:**

Ross Barrick, Paula Laney-Cowart, Dave Evans, Mitchell Hort, Joe McKenzie, and Jeremy Moore

**OTHERS PRESENT:**

Billy Pope (Staff – OUBCC) and Kathy Hehnly (Staff - OUBCC)

**CALL TO ORDER:**

Mr. Adam Shupe called the meeting of the Alternative Fuels Program Technical Committee to order at 1:50 p.m. in the Construction Industries Board/Uniform Building Code Commission Board Room at Shepherd Mall, 2401 NW 23rd St., Suite 2F, Oklahoma City, OK 73107.

**DISCUSSION AND ACTION ITEMS:**

Welcome to the new Oklahoma Department of Labor appointee, Ms. Angelia Cobble

Mr. Shupe welcomed Ms. Cobble to the committee and asked everyone to go around the room to introduce themselves and explain their background. Each member present shared their area of expertise.

Discussion and possible approval of the April 25, 2016 regular meeting minutes

Mr. Shupe noted the minutes were behind tab "A" and asked if there was any discussion, and if not he would entertain a motion for approval.

**MR. TOM SEWELL MADE A MOTION WITH A SECOND BY MR. CARY WILLIAMSON TO APPROVE THE MINUTES AS PRESENTED**

<b>VOTING AYE:</b>	Greg Armstrong	Tom Sewell
	Anthony Blatt	Adam Shupe
	Angelia Cobble	Cary Williamson
	Eric Pollard	

**VOTING NAY:** None

ABSENT:                Ross Barrick                                Joe McKenzie  
                             Paula Laney-Cowart                        Jeremy Moore  
                             Mitchell Hort

ABSTAIN:              None

Discussion and possible action on the committee review status and the possibility of meeting the Office of Administrative Rules deadlines for the upcoming legislative cycle

Ms. Hehny explained the possible tracks for meeting the deadline for filing rules with the Legislature and the Governor by April 1, 2017. She explained the Commission did not want to rush the committee, just informing them where the committee needed to be and what would need to happen if Alternative Fuel Program rules were to be filed during the next legislative session. She reviewed the timelines and noted she preferred the first track, as that allowed the most time if there were any issues. The committee discussed the tracks, the remainder of items to be reviewed, and the number of meetings that would be available for the committee during those timeframes. The committee clarified the only issues left to address were repair garage requirements and hydrogen and felt they should be able to meet one of the three options provided.

Discussion and possible action of repair garage requirements in the 2014 National Electrical Code® (NEC®) as compared to the 2015 editions of the International Fire Code® (IFC®) and International Fuel Gas Code® (IFGC®), and the 2016 edition of NFPA 2®, the 2015 edition of NFPA 30A®, and the 2013 edition of NFPA 59A®

Mr. Shupe passed out a document that he prepared explaining that the document listed the recommended changes to the 2018 IFC® that were received from Ms. Hamilton. He added it included his review and opinion on if those changes should be made to the code. He stated his document also included a table on the last page that compared the discrepancies between codes with regards to repair garages.

Mr. Shupe stated the first change to Section 2311.5, Preparation of vehicles for repair. He added the change and included two new code sections, 2311.5.1, Liquefied natural gas (LNG) and 2311.5.2, compressed natural gas (CNG). He stated the proposed changes dealt with temperature and fuel within the vehicle tanks and pressure dependent devices. He stated Section 2311.5.1 dealing with LNG was fine as it was written and proposed some new language for section 2311.5.2 dealing with CNG. The committee discussed the long-standing use of mechanical-dome valves; new electronic technology changing the systems; types of tanks; the expansion rates of the gases; relief devices on the tanks; the differences between the storage time limits of CNG and LNG; including additional language to require the defueling to be in accordance with Section 2311.8; licensing requirements for alternative fuel technicians working on alternative fueled vehicles; adding a requirement to include a posting for LNG vehicles within the shop or on the vehicle that listed the date, time, and pressure the vehicle had when entering the shop, so technicians would know when further venting would be needed to lower the pressure as the longer the vehicle sat, the more pressure would build and might need to be released. Mr. Shupe stated he would create a public comment form.

The committee reviewed the next modification proposed to Section 2311.7 Repair garages for vehicles fueled by lighter-than-air fuels. Mr. Shupe noted the modification added two different

sections to the code and a floor modification that was made during the ICC discussion. He noted there were a lot of requirements in the section and was almost everything related to ventilation, operation, and gas detection systems. He added the proposed changes included to the list, two new exceptions to the requirements in the section. The committee reviewed the first new exception and discussed that operations could change and new staff may not know of the requirements and may not do what was required; that the major and minor repair definitions triggered in the NEC® only dealt with classification areas; and that most mechanics did not, in practice, purge the CNG tank with nitrogen. The committee discussed different ways the language could be modified, insurance claims that wouldn't be paid if there was a fire and the investigation found that the purging did not take place, and that it did offer an exception for the ventilation requirements when doing major types of repairs if the tank was purged. The committee reviewed the second proposed exception, noting it was specific to only CNG fueled vehicles and determined there was no need for further discussion on the proposed change.

The committee looked at the next proposal to the 2018 IFC® on section 2311.7.1, Ventilation. Mr. Shupe noted the proposal was disapproved at the ICC level because of a similar proposal submitted prior to the testimony. Mr. Shupe stated the change added a second exception for natural gas vehicle repair garages complying with Table 403.1.1 of the International Mechanical Code® (IMC®). Mr. Shupe stated the table required 0.75 cfm per square foot of occupied area and was ceiling dependent. He noted it was considerably less than the required one (1) cfm per square foot or five air changes per hour for a typical repair garage. He added the ventilation requirements in the IFC® and IMC® did not mesh. He asked to postpone the discussion on the item until the committee was ready to look at the tables in his handout so all the ventilation requirements could be looked at together.

3:00 p.m. - Mr. Armstrong left and there was no longer a quorum however the remainder of the attendees decided to continue with the discussion.

The committee looked at the next proposal to the 2018 IFC® on section 2311.7.2.2, Operation. Mr. Shupe noted the change had to do with the activation of the gas detection systems. He added the proposal changed the activation system for hydrogen fueled vehicles verses CNG and LNG fueled vehicles and was based on the ignition temperature of 1000 degrees Fahrenheit. The committee discussed the reason the proposal was disapproved by the ICC committee; if the change should be made as written or if it should be modified; what the change would actually require; and determined the change was not needed in Oklahoma.

The committee looked at the next proposed change to the 2018 IFC® on Section 2311.7.2.3, Failure of the gas detection systems. Mr. Shupe noted the proposal went along with the one above and had been denied at the ICC committee level. The committee did not discuss the change.

Mr. Shupe discussed the tables on the third page of his handout, which reviewed the ventilation requirements in the IMC®, IFC®, and the NEC® for both major and minor work. He added it was further sorted by the areas of pit ventilation, lighter-than-air ventilation, and heavier-than-air ventilation. He reviewed his findings for pit ventilation, noting the IMC® did not list a specific amount of ventilation, the IFC® listed 1.5 cfm per square foot and the NEC® was conditional on the classification. He recommended making the language consistent between the codes by utilizing the IFC® requirement which was the most stringent, by changing the NEC® requirement and

adding language to the IMC® to require the same or putting a reference to the requirement in the IFC®, Section 2311.4.3, Ventilation. Mr. Shupe stated the committee could also add from the NEC® the requirement that the ventilation be within twelve inches of the floor to the IFC® and IMC®. The committee determined the modifications should be made and Mr. Shupe volunteered to submit a comment form.

Mr. Shupe reviewed the table items for general ventilation for lighter-than-air fueled vehicles. He noted the IMC® had a general requirement for repair garages but it was consistent for both lighter-than-air and heavier-than-air garages. He noted the requirements for the ventilation did not mention where the exhaust points were required. He reviewed the IFC® requirements and the NEC® requirements. He noted the NEC® only had requirements for major repairs and it was conditional at eighteen inches from the ceiling. He added his table did not address the requirements for the interlock with the gas detection system. He suggested possibly adding a note to the IMC® to refer to the IFC®. He noted he would like to make the IFC® requirement of one (1) cfm per cubic foot of volume, one (1) cfm per square foot to simplify the requirement, but it would be less stringent. The committee discussed major and minor repair garages in the NEC® and the exceptions in the IFC® for when the ventilation requirements would not be needed; gas detection systems and cost affordability; roof and ceilings in older structures that may not be flat and how to modify the language to address those situations. Mr. Shupe noted he would provide a public comment form on the section.

Mr. Shupe reviewed the general ventilation information heavier-than-air fueled vehicles. He noted there were requirements in the NEC® for ventilation that were much more stringent than either the IFC® or IMC®. He recommended either increasing the recommendations in the IFC® or IMC® or decreasing the requirement in the NEC® to bring the codes into alignment. The committee discussed the requirements and ways to modify them by reviewing different options to diffuse the collection of gases with one suggestion to be adding a reference in the IMC® to refer to the NEC® section when there was going to be major maintenance with a transfer of fuels on a vehicle and the large amount of air required to be transferred when major maintenance was going to be done. There was further discussion on the issue.

Discussion and possible action on information received from various sources in California related to NFPA 2 Hydrogen Technologies Code® and the International Fire Code® to include but not be limited to:

The committee members suggested making an agenda item to vote on ending the discussion on hydrogen fueling systems. They discussed possibly changing the reference to the 2016 edition of NFPA 2 as the part of that vote. Mr. Pollard volunteered to write up a comment form for the committee to vote on.

1. Email from Jennifer Hamilton regarding proposals to ICC for the 2018 edition of the IFC® related to NFPA 2®
2. California State Fire Marshal Information Bulletin 14-010
3. Chapter 23 of the 2013 Edition of the California Fire Code

Assignment of review for the July 25, 2016 meeting

Continue the review of the requirements for repair garages.

**PUBLIC COMMENTS:**

There were no public comments.

**ADJOURNMENT:** 4:30 p.m.

A quorum did not exist so no vote to adjourn was made.

Minutes approved in Committee Meeting on the 25th day of July, 2016

MITCHELL HORT

Mr. Mitchell Hort, Chairman

Alternative Fuels Program Technical Committee

PREPARED BY: KATHY HEHNLY

Ms. Kathy Hehnly, Executive Assistant

Oklahoma Uniform Building Code Commission

OFFICIAL COPY: *Original with signatures in file*