OKLAHOMA UNIFORM BUILDING CODE COMMISSION

ALTERNATIVE FUELS PROGRAM TECHNICAL COMMITTEE MEETING DISCUSSION
CONSTRUCTION INDUSTRIES BOARD/UNIFORM BUILDING CODE COMMISSION CONFERENCE ROOM
2401 NW 23RD STREET, SUITE 2F
OKLAHOMA CITY, OK 73107
MAY 23, 2016 - 1:30 P.M.

******* NO QUORUM – DISCUSSION ONLY*******

COMMITTEE MEMBERS PRESENT:
Ross Barrick, Joe McKenzie, Mitchell Hort, Eric Pollard, Tom Sewell, and Adam Shupe

ALTERNATE MEMBERS PRESENT:
Dave Evans

COMMITTEE MEMBERS ABSENT:
Greg Armstrong, Anthony Blatt, Angelia Cobble, Paula Laney-Cowart, Robert Lassiter, Jeremy Moore, and Cary Williamson

OTHERS PRESENT:
Billy Pope (Staff – OUBCC), Kathy Hehnly (Staff - OUBCC), and James Buck (Oklahoma Department of Labor)

COMMISSION DISCUSSION
There was no quorum for the meeting, but the committee members present did discuss some of the issues they had with the comparison of the repair garage requirements in the 2014 Edition of the National Electrical Code® to the 2015 editions of the International Fire Code® and International Fuel Gas Code® as well as the 2013 edition of NFPA 59®, the 2015 edition of NFPA 30A® and the 2016 edition of NFPA 2®. No votes or actions were taken on any of the issues discussed.

Mr. Shupe provided a spreadsheet he created to try and organize all the requirements in the comparisons of the codes. He noted the spreadsheet listed the issues in the NFPA®, IFC®, NFPA 30A® and the IMC®, although the IMC® information was not on the spreadsheet. He added he wanted to look at the language the State of California adopted fire code as well. He noted the first part applied to the general statements in the codes and not applied to any special case. He noted on the second and third pages the issues were categorized by minor and major repairs as defined by the NEC®. He added the NEC® was the only one using that language, neither NFPA 30A® or the ICC codes used the language. He added if the language was in italics it was paraphrased from the code, but any text that was not in italics was language taken directly from the code or standard, noting some of the sections were exhaustive.

Mr. Shupe reviewed the definitions in NEC® for both minor and major repairs and the discussion that took place at the last meeting. He noted the difference between the two types of repairs was in

how the ventilation had to be dealt with, noting with a minor repair the language dealt with when flammable liquids were not being dispensed or transferred. He stated one way this was dealt with was taking the vehicle outside of the facility to transfer the fuel then returning the vehicle to the facility. He noted there were different ways the code went through the ventilation requirements which were the floor, ceiling, and pit areas. He noted the floor area was not in the pit, it was the area around the pit and the ceiling area was for lighter-than-air gaseous fuels. He noted on the spread sheet, he listed a column for fuel type to identify if the requirements were for light-than-air, heavier-than-air, or both fuel types. Mr. Shupe reviewed the requirements for the floor area and referenced a copied page passed out from the NEC® for Exhibit 511.1 which was an illustration that showed the different areas of the repair garage. He reviewed the remainder of the requirements on the spreadsheet for minor repairs and did not discuss any of the major as they were similar and the committee members could review that at their leisure.

Mr. Shupe reviewed the issues he found that dealt with the general setup of the repair garage that were not specific to major or minor repairs. He noted one of the issues he found was under the requirements for sources of ignition in the NEC®, which required that "all sources of ignition shall not be located within eighteen (18) inches of the floor." He stated it was regardless of the fuel used. He added the City of Oklahoma City had this issue with regards to gas water heaters. He noted currently in the City of Oklahoma City, gas water heaters located in any garage had to be lifted at least eighteen inches above the floor. He noted typically there were freezers and refrigerators as well as other kinds of appliances in a garage that all have contacts on them that should be considered points of ignition. He reviewed the requirements for pit areas and noted an issue between the IFC® and IMC®, where the IFC® listed a requirement for a ventilation rate in accordance with the IMC®, which didn’t list a ventilation rate. He reviewed the general requirements for ceiling areas, noting that natural ventilation could be used where approved. Mr. Shupe pointed out the exceptions listed in the IFC® for ventilation. He noted the NEC® was concerned about the transfer of fuels, but the ICC codes were concerned with welding or any kind of open flame. He stated the IFC® was more restrictive than the NEC®. Mr. Shupe then reviewed the pit area requirements, noting NFPA 30A® had a less restrictive requirement than what was in the IFC®. He discussed the continuous ventilation requirements in 30A® even if the building was not occupied. He did state ICC was going to require ventilation of the pit area.

Mr. Shupe reviewed the requirements for gas detection requirements in NFPA 30® had to cover all fuel types. Mr. Sewell asked if the requirement for the fuel types would only extend to those utilized in that service bay. Mr. Shupe replied that was correct and the two discussed different scenarios. He reviewed different appliances and heaters in NFPA 30A®.

Mr. Shupe noted that concluded his summary of the spreadsheet, adding there were some differences and conflicts between the codes and standards. Mr. Evans asked if the committee clarified language, would it make things more restrictive. Mr. Shupe replied that was a hard thing to ask, right now it required someone to read all the codes and determine which features were more restrictive. He recommended the committee make those assessments and possibly take the more restrictive approach that works for all applications. Mr. Evans noted he appreciated that from a safety point of view, but would argue the risk assessment would possibly require the less restrictive requirement of the codes. He added making the codes more restrictive eliminates people in small rural areas from doing what they’ve been doing. He added, is the requirement talking about a two percent chance of something going wrong or a fifty percent chance. Mr. Shupe noted

most of the requirements were close. He added he would like to see the committee get away from the major and minor discussion, as it confused everything. The committee discussed the air change per hour requirements in the IFC®, multi-use buildings and gas-detection system requirements and settings, any known garage fires or explosions from alternative fuel vehicles in repair garages, the amount of volume of gas expected to exist in vehicles in repair garages and hazard classifications based on quantities of the gases in the facility. There was further discussion on ways the CNG vehicles could fail that would require the engagement of an emergency ventilation system, risks with pits and heavier-than-air fuels, methane detectors, and open inferred heater requirements.

The committee discussed using the IFC® requirements to start with. Mr. Shupe stated he would expand his spreadsheet and would propose some code changes to the NEC® and make sure the ICC codes communicate well. He added he would identify any items that needed to be made more stringent related to NFPA 30A®.

There was more discussion on ventilation requirements, the definition of transfer of fuels, and defueling language in the NEC®. There was discussion on the information Mr. Sewell obtained on the CNG plumbs. There were some short animation videos included and the committee reviewed them. There was further discussion on the codes and making them more restrictive when the risk mitigation factors were low and some modifications that were submitted to the ICC for the 2018 code by Sandia Lab and the mechanical ventilation of buildings in regards to the different scenarios in the videos.

The committee discussed some proposed language that Mr. Barrick provided for the 2017 NEC®. Mr. Barrick noted the language provided would be a big overhaul of the section on commercial repair garages and storage. There discussion on the ventilation requirements in the proposed language and storage of vehicles in different types of facilities. There was discussion on if removing a fuel injector was considered a transfer of gas. The committee consensus was that was not a transfer of gas as the source was shut off when the car was turned off and it was a release not a transfer of gas. The committee discussed if there should be some language added to the code to clarify what was a transfer of gas versus a release when dealing with a major repair garage. There was further discussion on how to modify the codes to create consensus between the NEC® and ICC codes without the changes making the codes burdensome. Mr. Shupe stated he would update his spreadsheet and would try to provide some code change requests for the next meeting.