SFPE Standards-Making Committee on Calculating Fire Exposures
Database Working Group
Meeting Report -- June 10, 2016

Present: Sean Hunt (Working Group Leader), Vyto Babrauskas, Jason Smart, Ulf Wickström, Craig Beyler (Committee Chair) and Chris Jelenewicz (Staff)

The following was discussed:

1. **Overview of mission –** This working group was asked to complete three tasks:
    a. Review the existing database of test results to identify any tests that should be removed from the database based upon data quality (e.g. where gas temperature is a poor representation of the heating of the structure).
    b. Review SFPE Standard 2 representation of the heat transfer boundary condition and consider if any change in the database should be undertaken.
    c. Review what new data can be identified and added to the database.

2. **Overview of existing database –** The working group reviewed the exiting database that was used for version 1. This database was developed 12 years ago. It includes data sets from about 150 different tests of fully developed enclosure fires that was obtained from test reports, journal articles and government publications. The data included temperature data and specifics about the test (room dimensions, ventilation configuration, etc.). For each test, the temperature data was compared to various calculation methods.

3. **Sub-Task 1, review existing dataset for poor quality --** The working group will review the quality of the data in the existing database. Specifically, ask the question, did the test fires produce fully developed fires? When the original database was originally produced, the committee used a set of criteria. Sean will provide information on this criteria to the working group.

There was a conversation about the measurement techniques used in the database in regards to thermocouples providing consistent results. It was agreed that evaluating all of the current data would be difficult and would be outside the scope of this working group.

4. **Sub-Task 2, SFPE Standard 2 representation of heat transfer boundary condition –** The working group will consider how the database is and how this data can be transferred to Standard #2. When the revisions to Standard #1 is complete, there should be a seamless transition between the two Standards.

   There was a discussion on how the mean temperatures were reported in the existing database. Sean will confirm how the mean temperatures were reported.

5. **Sub-Task 3, literature review for new data** – The working group will determine if any data is missing from the existing database. A few sources of data were suggested:

   a. Fire Code Reform Center (Australia)
   b. Professor Chow in Hong Kong (CJ will check with Chow)
   c. AWC data from test performed at Southwest Research Labs (Jason will provide)
   d. Possible World Trade Center Data (Jason will research)
   e. Cliff Barnett (Vyto to provide)
   f. Data from SP (gas diffusion flame, well controlled fire) (Ulf to provide)

   A ShareDrive will be established so the working group members can post new sources of data. CJ will investigate.

6. **Repackage database? –** There was a brief discussion about the format of the existing database and if it needs to be reformatted to make easier to understand. It was agreed that this will need to be discussed at a later time.

7. **New Calculation Methods –** The working group will determine if any additional or new calculations need to be added. Ulf has provided a new calculation method.

8. **Moving Forward** – The working group agreed that looking for new data will be the priority. Each working group member was asked to start to look for this data and post on the ShareDrive once it is made available. Additionally, the following is a prioritized listing of working group activities:

   a. Look for new data (Before mid-July).
   b. Quality review of data
   c. Determine how will the data be manipulated

9. **Next Meeting** – The next working group meeting will be held in mid-July. CJ will schedule via a Doodle Poll.

End of Report