



**SFPE Standards-Making Committee on Calculating Fire Exposures
Risk Working Group
Meeting Report – April 26, 2017**

Present: Kevin LaMalva (Working Group Leader), Farid Alfawakhiri, Craig Hofmeister, Mostafaei Hossein, Colleen Wade, Craig Beyler (Committee Chair) and Chris Jelenewicz (Staff).

The following was discussed:

Draft White Paper – A draft White Paper (A Proposed Framework for a Reliability-Based Method to Calculate Structural Design Fires) that was drafted by Kevin and Panos was discussed. The White Paper outlines a methodology for a reliability-based option for estimating ventilation-controlled enclosure-type fire exposures within the next edition of the standard.

Section 3.2 -- It was noted that Section 3.2 of the White Paper discusses how to estimate a nominal fire load that would be used to calculate the fire load effects based on the configuration and stiffness of the structural system being analyzed (i.e., thermal restraint).

Farid will provide feedback in regards to the AISC information contained.

Section 4-- It was agreed that the parameters noted in Section 4 look good. It was suggested that more commentary will be needed in regards to Area and Ventilation Openings. Both parameters may need to be represented as a step function.

Section 6.2 -- Panos will provide additional commentary on the scientific basis of the ventilation parameter discussed in Section 6.2. As it applies to Section 6.2, it was agreed that we should assume that all windows will be broken given that we are concerned about fully developed fires.

There was a discussion about accepting the assumption that the structural design fire be based on an entire floor plate or area outlined by fire barriers. The White paper should include commentary from S.02 and NFPA 557 concerning how the fire area is defined. Also, the risk factor of multi-floor involvement should consider the performance of horizontal fire barriers.

Section 7 -- Collen will expand on information about Australia and New Zealand.

Section 8 – There was a discussion on target reliability index $[\beta]$ values. The White Paper should elaborate on how conservative the proposed values are in order to pacify stakeholders.

Traveling Fires Working Group -- Barbara Lane will chair the traveling fire working group.

Database Working Group -- Currently the database working group is collecting most of the data that is needed with exception of decay rate. We may need to specify a decay rate based on engineering judgement or specify the Eurocode approach.

Craig recommended the risk working group define the data that is needed for analysis, and the database working group will perform the analysis.

Moving Forward – The working group will outline a specification on how data will be analyzed and continue to finalize the White Paper. Kevin seeks assistance from a task group member well versed in reliability-based statistics for this endeavor.

Next Meeting – CJ will schedule the next working group meeting via a Doodle Poll.

End of Report