ケーススタディ WG 委員公募

日本防火技術者協会会員各位

一昨年に引き続き今年も SFPE の「防火の性能設計における国際会議」(2014 11/12～14　オーストラリア　ブリスベン)において防火設計のケーススタディに日本防火技術者協会として応募することにいたしました。
これは、ケーススタディの課題に対して各国が防火設計を発表し、技術の向上と共有を図る目的で開催されているもので、今年の課題は 8 階建ての雁行する吹き抜けを持つオフィスビルです。(詳細は下記参照)
参加希望者で WG を作り、1 回/月程度の委員会で、案を仕上げて行きたいと思います。会議の場で発表をする人は会議への参加費用が免除されます。
多くの会員の方の参加を期待します。

・委員会　1 回/月程度　2014 1 月～8 月
・委員会開催場所　東京理科大学国際火災科学研究科　を予定
・参加希望連絡先　fukui@nikken.jp 理事長　福井まで

10th International Conference
on
Performance-Based Codes and Fire Safety Design Methods

November 12-14, 2014, Brisbane Australia

Case Study Building Specifications

I. Objective:

The objective of this case study is to prepare a performance-based fire safety strategy report for a building with internal inter-connected spaces. The building will be mixed-use, consisting of retail stores and carparks on the lower floors and office space on the upper floors.

The performance-based fire safety analysis and design should meet the following fire and life safety goals:

1) Safeguard occupants from injury due to fire until they reach a safe place.
2) Safeguard fire fighters while performing rescue operations or attacking the fire.
3) Design to avoid structural failure in the event of fire.
4) Design to avoid building-to-building fire spread.

II. Building Description:

General descriptions:

- The building is a corporate headquarters office located on the bank of a river
- It contains a total of 8 floor levels (L1 to L8)
- L1 to L3 are carparks. L4 to L8 are offices
- Some retails areas are located on the perimeter of the building on ground level
- The building foot print is 100 m x 30 m
- The floor-to-floor height is 3 m per carpark level and 4 m per office level
- Carpark level L1 is partly below ground
- The east facade of the building is located within 1 m of the site boundary

Access and egress:

- Main entry to the building is located on L4 on the west side, facing the main street.
- Access to the main entry is via a stairway leading from the street level to L4 (see figure)
- Vehicle entry to the carpark via a lane way located on the north side
- All five office levels (L4-L8) are interconnected by an open stairway (south side - see attached figure)
- Retail areas on ground level have direct access/egress to the outside.

Specific client/architectural requirements:

- The space within the 5 office levels are interconnected by floor voids and open stairways (see figures).
- The edges of the floor voids and open stairway are separated by balustrades only. No wall or bulkhead barriers are to be installed at these locations to enclose the voids.

- the facades on east, south and west side of the office levels are glazed curtain walls to maintain a clear view of the river on the south side.

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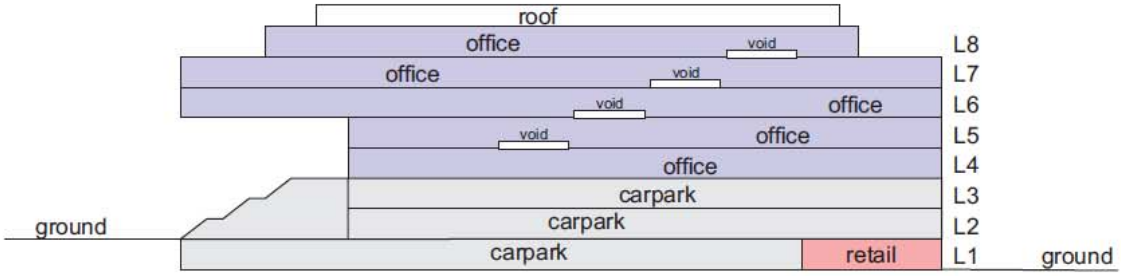
III. Project Report:

It shall be demonstrated that the above fire and life safety goals have been addressed by providing a detailed project report. There is no page limit to the project report.

In particular, ensuring safe egress for occupants under a variety of fire scenarios will likely be one of the challenges of this project, as will avoiding building-to-building fire spread on the eastern exposure. Additionally, any strategies used to achieve the project goals will likely have less than perfect reliability, so this factor should be addressed as well.

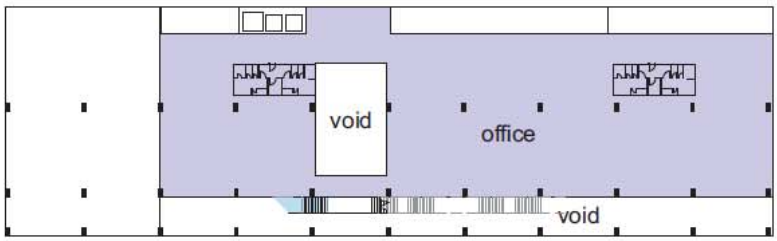
This report should address at least the following items:

a. The performance criteria selected to assess the fire safety goals and objectives.
b. A description of the fire safety design approach used.
c. Fire safety measures selected.
d. How safe egress will be provided for building occupants under a variety of reasonably foreseeable fire scenarios.
e. How human behavior was considered.
f. The fire scenarios evaluated, and how they were selected.
g. A discussion of how the proposed fire safety measures address the performance criteria.
h. How safety for fire fighters will be provided.
i. How safety for persons with disabilities will be provided.
j. Fire safety tools and design methods used in the analysis and designs (i.e., fire models, calculation methods, statistics, fire test data, etc.), including why the tools were selected.
k. Which aspects of the analysis were modeled, and which were based on engineering judgment.
l. Fire safety management requirements, including material control, change of occupancy requirements, education and training, etc.
m. Discussion of how uncertainties were addressed.
n. References for all engineering tools and methods, input data, fire tests, occupant characteristics, statistics, etc.
o. Drawings and specifications as necessary.

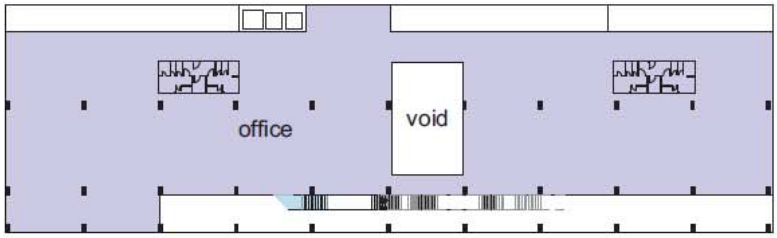


cross-section

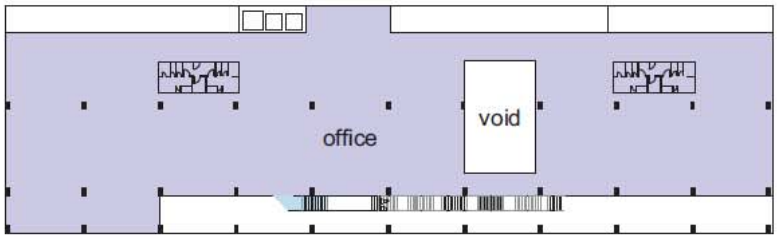
L4



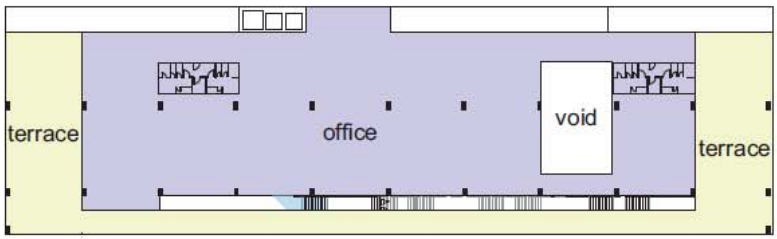
L5



L6



L7



L8