



## SCDF Circular – Issues that cannot be addressed using Performance-Based (PB) Approach

5 December 2022

**Dear Members,**

SCDF informed that they have collated a list of Fire Code deviations which are not suitable to be addressed by a performance-based (PB) fire safety design solution.

**PB fire safety design solution** refers to fire safety works design based on fire engineering principles. Only Fire Safety Engineers (FSEs) who are registered with the SCDF can submit PB fire safety designs.

When a PB fire safety design solution is proposed, the FSE is required to indicate the Fire Code deviations which the PB solution is intended to resolve, and how the proposal will address these deviations. However, there are instances where a fire engineering approach is unsuitable in addressing these deviations, as follows:

- a. The issue does not have a suitable fire engineering methodology to meet the fire safety objectives.
- b. The consequences of the Fire Code deviation are considered severe.
- c. The risk is not easily quantifiable, i.e. fire risks involving probabilities.
- d. The proposal is not aligned with prescriptive-based fire safety design policies.

The list is available from SCDF's website: <https://www.scdf.gov.sg> >> Fire Safety >> Plans and Consultations >> PB approach to Fire Safety Design >> Situations Deemed Unsuitable For Use Of PB Approach.

QPs and FSEs should be aware of the limitations of the PB approach and not embark on such an approach to address these deviations, as SCDF will not accept the PB proposals.

For any feedback or clarification on the above, please contact Mr Nicholas Lee at email: [Nicholas.LEE@SCDF.GOV.SG](mailto:Nicholas.LEE@SCDF.GOV.SG)) or Mr Shimon Seng at email: [Shimon.Seng@SCDF.GOV.SG](mailto:Shimon.Seng@SCDF.GOV.SG).

Thank you.

With best regards

Noelle Oh

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# SCDF

The Life Saving Force

... for a safer Singapore

SINGAPORE CIVIL DEFENCE FORCE



**Date** : 1 Dec 2022

**Our Ref:** CD/04/05/01/01

Registrar, Board of Architects  
Registrar, Professional Engineers Board  
President, Singapore Institute of Architects  
President, Institution of Engineers, Singapore  
President, Association of Consulting Engineers, Singapore

Dear Sir/Mdm

## **ISSUES THAT CANNOT BE ADDRESSED USING PERFORMANCE-BASED (PB) APPROACH**

Fire safety works that are designed in accordance with the requirements prescribed in the Fire Code are known as prescriptive-based fire safety design. Alternatively, fire safety works can also be designed based on fire engineering principles, and this approach is also known as performance-based (PB) fire safety design. Only Fire Safety Engineers (FSEs) who are registered with the SCDF can submit PB fire safety designs.

2. When a PB fire safety design solution is proposed, the FSE is required to indicate the Fire Code deviations which the PB solution is intended to resolve, and how the proposal will address these deviations. However, there are instances where a fire engineering approach is unsuitable in addressing these deviations.

3. SCDF has collated a list of Fire Code deviations which are unsuitable to be addressed by a PB fire safety design solution, as the fire and life safety risks may not be adequately addressed. This could be due to:

- a. The issue does not have a suitable fire engineering methodology to meet the fire safety objectives.
- b. The consequences of the Fire Code deviation are considered severe.
- c. The risk is not easily quantifiable, i.e. fire risks involving probabilities.



**SCDF – A member of the Home Team**

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- d. The proposal is not aligned with prescriptive-based fire safety design policies.
4. The list is available from SCDF's website by following :
- <https://www.scdf.gov.sg> >> Fire Safety >> Plans and Consultations >> PB approach to Fire Safety Design >> Situations Deemed Unsuited For Use Of PB Approach
5. QPs and FSEs should be aware of the limitations of the PB approach and not embark on such an approach to address these deviations, as SCDF will not accept the PB proposals.
6. Please convey the contents of this circular to members of your Board/Institution/ Association. This circular shall take immediate effect and is also available in CORENET-e-Info: <https://www.corenet.gov.sg/general/e-info.aspx>.
7. For any enquiry or clarification on the above, please contact Mr. Nicholas Lee (E-mail : [Nicholas\\_LEE@SCDF.GOV.SG](mailto:Nicholas_LEE@SCDF.GOV.SG)) or Mr. Shimon Seng (E-mail: [Shimon\\_Seng@SCDF.GOV.SG](mailto:Shimon_Seng@SCDF.GOV.SG)).

Yours faithfully,

(transmitted via e-mail)

LTC Tan Chung Yee  
Fire Safety & Shelter Department  
for Commissioner  
Singapore Civil Defence Force

cc

CEO, BCA  
CEO, URA  
CEO, HDB  
CEO, JTC  
CE, LTA  
President, REDAS



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## SCDF – A member of the Home Team

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President, IFE  
President, SISV  
SCDF Fire Safety Standing Committee  
Fire Code Review Committee  
Fire Safety Engineers



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