**BUILDING COMPLEXITY DEFINITION DETAILED COMMENTS**

A discussion on the information provided in this document covers the following:

1. First reason on page 2.
2. Second reason on page 2.
3. Format of the draft document.

**1.0 FIRST REASON STATED IN THE EXPLANATORY NOTES ON PAGE 2**

“**The key criteria that determine the level of safety and health risk in buildings are:**

**• Potential consequences in terms of the number of occupants exposed (N).**

**• The vulnerability of those occupants (V).”**

**1.2** In Table 2 page 1, it states:

 Low number of occupants is 100 or less

 Large number of occupants is more than 100

 Very large number of people is more than 1000

 Very low number of vulnerable occupants is 10 or less

 Large number of vulnerable occupants is more than 10.

**COMMENT** Reasons are needed to justify why 10, 100 and 1000 were selected for the dividing lines.

**1.3** Definition of vulnerable occupants in the note section of the document on page 2.

“**Vulnerable occupants** are occupants who require assistance to evacuate the building during an emergency, and include the following

* + - 1. (a) Children in an *early childhood centre.*
	1. (b) Residents of an *aged care building* or *residential aged care building.*
	2. (c) People with a disability in a *residential care building.*
	3. (d) Patients in a *health-care building.”*

**COMMENT** Clarification is needed to confirm if disabled persons in other buildings who need assistance to evacuate are not classified as vulnerable occupants. By including the words “and including the following…” seems to suggest that people who need assistance in other buildings not covered by (a) to (d) above, may be classified under the definition as vulnerable occupants. If this is so, then no guidance is given on how to establish a vulnerable occupants number in buildings used by the public. It should be remembered that those with a serious disability when visiting public building (such as shopping centres) have a carer with them.

**2.0 SECOND REASON STATED IN THE EXPLANATORY NOTES ON PAGE 2**

**“The key criteria that determine the likelihood of error in design or construction are:**

 **• The complication of the building design, construction and material used (C).**

**• The organisational (O) factors, including the ownership structure, the method of procurement and the future maintenance requirements for life safety systems.”**

**2.1** Definition of complicated building in the note section of the document on page 2.

“A **complicated building** is a building which has one or more of the following attributes

* + - * 1. (a) For Volumes One and Two, constructed using innovative materials or systems, where compliance is demonstrated by a *Performance Solution*.
	1. (b) Structurally complex or outside of established and codified design principles.
	2. (c) An *effective height* of more than 50 m.
	3. (d) Located in an area of high natural hazard risk or high environmental risk.”
1. **COMMENT** Except in (c), personal judgements will most likely be used. It would appear that even partial use of *Performance Solution* would be caught by (a).
2. Minor use of *Performance Solution* should be exempt from (a), for example the use of *Performance* to approve a minor construction error such as a concrete stair built 900 mm wide instead of the required 1000 mm width.

**2.2** Definition of organisational building in the note section of the document on page 2.

“**Organisational** is where a building has one or more of the following attributes:

* + - * 1. (a) Complex procurement arrangements, including design and construct, but not traditional contractual models or own, build and operate structures.
	1. (b) A building system (or systems), relevant to structural, fire or life safety, which necessitate special maintenance or inspection and testing requirements.”

**COMMENT** The issues outlined in (a) may not be all known at the design stage and it is possible that procurement arrangements for the project or project ownership may change later after the design stage and after building approval is given. If this situation were to occur, can the project be exempted from the organisational requirements of the Building Complexity definition that would apply if the design is not completed or building approval not obtained.?

* 1. **3.0 FORMAT OF THE DRAFT DOCUMENT**

The following observations are made:

1. In reading Table 2 page 1, one comes across some concepts but it is not until one sees the ‘Note’ on page 2 that one finds the definitions for complicated building, organisational and vulnerable occupants.
2. A legend (giving all the key elements and definitions) earlier in the document would greatly assist the reader.
3. Figure 2 Building complexity decision process takes a while to understand.
4. Table 2 Building complexity levels, is set out in a very complex manner which is not easy to read. One has to read Table 2 slowly to understand it. There is a need for a clearer table format that would be easier to read.