NZFS Engineering Unit – Fire Engineering Brief Checklist

DRU Job Number:
Date Received by DRU:
Name of Engineer:
Date Reviewed:

	Yes	No	N/A
1. Overall Documentation			
FEB Size (Full IFEG or 'FEB Lite')			
Type of work: (New building/ Alterations/ Additions/Change of use)			
Building Description			
Project Stakeholders Identified (individuals to be named for full FEB)			
Specific Hazards Identified			
Performance Objectives Identified			
• Building Code Compliance			
• Fire Fighting Operations (refer Fire Fighting Facilities Checklist)			
• Other (e.g. Property Protection)			
Acceptance Criteria appropriate and referenced			
• Visibility			
• Temperature			
• Toxicity			
• Radiation Heat Flux			
• Other (details provided)			
Occupant Details			
• Number and Distribution (if not C/AS1 occupancy, request confirmation of occupancy from client)			
• Occupant condition and awareness			
Overall Building Details			
• Trial design fire safety systems?			
• Location of proposed fire separations- plans provided?			
• Performance based design elements identified?			
• Proposed evacuation approach identified? Staged or global			
• Has sufficient detail been provided to fully understand the overall building design?			
• Project Schedule- when is the response required by?			
2. Fire Scenario Selection			
• High probability events			
• Low probability with high consequence events			
• Does the design consider the full range of fire scenarios (smouldering, well ventilated, post flashover as appropriate)?			
• Does the design assume any fire sterile areas? How will this be enforced?			

3. Design Approach (for each non-compliance issue)			
• Absolute, Quantitative or Deterministic (complete section 4)			
• Comparative(complete section 5)			
• Qualitative (complete section 6)			
• Probabilistic(complete section 7)			
4. Absolute, Quantitative and Deterministic Design Approaches			
• Methodology clearly identified?			
• Methodology used within its validated limits?			
• Methodology assumptions appropriate to particular case?			
• Design fire appropriate to compartment use and design issue?			
• Inputs appropriate for issue and fully referenced?			
• Use of CFD Modelling (e.g. FDS)- if yes complete checksheet CFD01			
• Use of Zone Models (e.g. Branzfire)- if yes complete checksheet ZONE01			
• Use of Egress modelling software (e.g. Pathfinder)- if yes complete checksheet EVAC01			
• Acceptance criteria appropriate to risk and the level of uncertainty/conservatism in the inputs?			
5. Comparative Design Approach			
• Is the comparison valid?			
• Does the comparison consider all pertinent issues?			
6. Qualitative Design Approach			
• Is qualitative approach appropriate?			
• Is the argument logical and complete?			
• Are assumptions valid to issue at hand?			
7. Probabilistic Design Approach			
• Inputs appropriate for issue and fully referenced?			
• Distribution of inputs appropriate?			
8. Sensitivity/Uncertainty			
• What sensitivity analysis is proposed to assess the impact of changing significant input variables? May include the following:			
o Movement rate of occupants			
o Specific flow of occupants past obstructions			
o Fire growth rate			
o Fuel load within space			

9. Redundancy			
• Consider non-operation of each fire safety system and its impact on the safety factors achieved. May include the following:			
○ Loss of water supply to the sprinkler system			
○ Partial operation of a smoke control system			
○ One exit being blocked			
10. Human Behaviour			
• Does the design rely on occupants undertaking actions within a certain time? What happens if these are not done as expected?			
• Does the design solution require a certain number of staff to work?			
• Does the design require occupants to undertake actions that are not considered normal?			
11. Holistic Issues			
• Are interactions between the performance based design element and the overall design captured in the analysis?			
• Does the design require NZFS response within a given timeframe? What happens if this doesn't occur as expected?			
12. Consent Documentation Issues to be Raised			
• All limitations of the design to be clearly documented in final design summary?			
• Any C/AS1 non-compliance issues observed in review?			
• FEB documentation to be included in the consent documentation as a record of the discussions?			