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Response in Fires Database

FCRC Project 4
Fire Safety System Design Solutions
Part A – Core Model & Residential Buildings

Fire Code Reform Research Program
February 1997

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Background

The Fire Code Reform Research Program is funded by voluntary contributions from regulatory authorities, research organisations and industry participants.

Project 4 of the Program involved development of a Fundamental Model, incorporating fire-engineering, risk-assessment methodology and study of human behaviour in order to predict the performance of building fire safety system designs in terms of Expected Risk to Life (ERL) and Fire Cost Expectation (FCE). Part 1 of the project relates to Residential Buildings as defined in Classes 2 to 4 of the Building Code of Australia.

This Report was relevant to the project activities in support of the Model's development and it is published in order to disseminate the information it contains more widely to the building fire safety community.

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Comments

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RESPONSE IN FIRES DATABASE
February, 1997

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APPENDIX EI: DATA COLLECTION METHODOLOGY

P. BRENNAN & B. DOUGHTY 1996
REVISED P. BRENNAN 1997 November

The system, detection, smoke spread and fire spread models provide some of the input variables for the Human Behaviour model. Unless otherwise stated, times and probabilities for response to the cues come from a database on human response in fires (RIF - the Response in Fires database) which allows statistical interrogation. The software used for this purpose is SPSS (the Statistical Package for the Social Sciences, 1995). The design of the database enables the probability of particular responses to cues and average response and evacuation times to be determined for particular situations. Because of the limited number of cases at present, the validity of the times and probabilities is acknowledged as limited. The data are insufficient to determine the separate influences of every factor of interest on responses and evacuation times but will in time provide such information. Data are sought on human response in all buildings in Categories Class 2-4 of the BCA.

The RIF database provides statistical backing for the probabilities of occupant action on exposure to cues and the times for such action. The database, along with other information derived from interviews and the literature, is used to support values for cue recognition, manual activation of warning devices and occupant to occupant warnings which are input variables for the Human Behaviour Model. It also validates the selection of cues nominated by the Model. Because of the rarity of fires, support for the model must also come from studies of fires in other countries.

Although restricted by the fact that fire incidents are rare in Australia, researchers are collecting extensive information from particular incidents in multi-storey buildings. The preferred method of data collection is by interview. The principal interview format employed combines interrogatory and narrative methods to obtain a full and sequenced account of response from immediately prior to the awareness of something untoward occurring until evacuation or alternative action is carried out. It is based on the Behavioural Sequence Interview Technique developed by Keating and Loftus (1984). A second method structures the interview through a detailed questionnaire. Perceptions as well as actions are recorded. Information is collected on a large number of occupant characteristics (eg. ages, gender, numbers, disabilities, knowledge of safety systems, experience of alarms), on building characteristics (eg. number of storeys, age, design, occupancy type, detection and defensive systems), on the fire itself (including smoke spread), and on the extent of the effect of the fire.

Time is the most difficult information to access. Individuals under threat from fire tend not to attend to details of time. Information on time is sought by a number of means:

1. occupants are asked to estimate the time taken for particular sequences of responses
2. occupants are asked about their awareness of the actual time at any stage of the incident and the source and reliability of such information
3. timed calls to 000 or the Fire Brigade and the time of arrival of different Fire Brigade vehicles provide a fixed time against which to place occupant observations
4. occupant movement in relation to the movement of other occupants and of events during the incident can also provide a means of fixing time.

Brennan (1997) illustrates in detail the method used for establishing times in relation to two fires.

A second interview format is used for occupants who are somewhat removed from the fire and for whom the incident was in no way a threat. This is aimed at obtaining information on the number of occupants who did not evacuate or who did not know about the fire, for example.

A detailed questionnaire has been developed for situations where it is not possible to interview occupants (eg. because of distance, language, time, large numbers or unwillingness to be interviewed) but where they may be prepared to provide information by an alternate method. The questionnaire has been translated into Vietnamese and may be translated into other key community languages if the need arises and its effectiveness is established.

Reference

Brennan, P. (1997). *Timing human response in real fires*. Proceedings of the 5th International Symposium on Fire Safety Science, Melbourne, 3-7 March. International Association for Fire Safety Science pp. 807-818.

APPENDIX E2: ACTION PROBABILITIES

B. DOUGHTY & P. BRENNAN 1997 February

Data in this appendix are based on the Response in Fires database as of February 1997. In the database, eight actions are distinguished. The options for action in different phases are described below and summarised in Table 1.

Phase 1 - initial location when first cue is received
Evacuate
Check corridor (investigate)
Take control - fight fire and/or organise others but do not evacuate before arrival of FB
No Response
No Response - no cue recognised (principally, did not hear alarm)

Phase 2 - on checking corridor. For occupants who seek further information from corridor
Evacuate
Draw back, having made a decision not to evacuate
Return ie. stay in initial location and await further cues
Take control

Phase 3 - further cues received in initial location after returning from checking the corridor
Evacuate
Check corridor (investigate)
Take control - fight fire and/or organise others but do not evacuate before arrival of FB
No Response

Phase 4 - on checking corridor for a second time.
Evacuate
Draw back, having made a decision not to evacuate
Return ie. stay in initial location and await further cues
Take control

Phase 5 - on evacuating from the apartment
Continue to evacuate
Draw back

TABLE 1. DATABASE ACTIONS AVAILABLE TO OCCUPANTS IN DIFFERENT PHASES

	Phase 1	Phase2	Phase 3	Phase4	Phase5
Evacuate	*	*	*	*	
Check corridor	*		*		
Take control	*	*	*	*	
No Response	*		*		
No Response - no cues	*				
Draw back (withdraw)		*		*	*
Return		*		*	
Continue evacuating					*

Probabilities of response are established for three cues in the ANFO: Light smoke, Warnings and Alarms. The probabilities represent the number of times a cue is nominated as the key cue for action over the number of times that cue is nominated whether or not there was a response.

For the calculation of probabilities for the IRM, occupants who Take Control are included with those who evacuate for the following reasons:

- they are commonly people with particular responsibilities
- they remain in control of the situation and are aware of their own safety
- if they did not have particular responsibilities they would opt to evacuate
- they are more similar to evacuees than people who do not respond

An additional category, "None of these", on the database has two entries under actions. Both refer to people who watched the fire after investigating. These people are regarded as non-evacuees.

Also in calculating probabilities no distinction is made between people who return to a room without having made a decision to evacuate or not evacuate (Return) and people who return to a room having made a decision not to evacuate through the building (Draw back).

Fourthly, only actions in Phases 1, 2 and 5 are used when probabilities are calculated. This is because there are no cases in Phases 3 and 4 which involve response to the cues nominated by the IRM.

The base figures for probabilities differ slightly from the figures for times (Appendix A) because of the above adjustments.

Table 2 lists the number of times a cue is recalled by any occupant in Phase *1 whether or not it invokes* a *response.* These figures form the basis for the probabilities for action in response to each cue. Cues are listed by order of reception on the database.

TABLE 2. CUES RECALLED BY OCCUPANTS (PHASE 1)

	RM1CUE1	RM1CUE2	RM1CUE3	RM1CUE4	TOTAL
Outside smoke from flashover		I			I
Light smoke	11	*3*	I	1	16
Medium smoke	1	I	I		*3*
Flames	*2*	*I*			*3*
Sound of glass breaking	*2*	I			*3*
Warning from another	13	*13*	*2*		*28*
Alerted to presence of FB	*I*	*3*	*I*		*5*
Alarm: building alarm	*22*	*3*			*25*
	1 (no cues)				(0)
Total no cues	*52*	*26*	*5*	I	*84*

Notes: The case with no cues is a person who slept through a fire incident. The ordering of the cues etc) reflects but does not indicate the actual ordering for individual cases. It aggregates the cues.

Table 3 lists the responses to cues which are nominated as the primary cue leading to evacuation. It includes cues other than those in the Interim Response Model. It indicates that the most important cues on the present database are Light smoke, Warnings from other people and Building alarms. The probabilities of response to these three cues are presented in Table 4.

TABLE 3. CUES NOMINATED AND IN RESPONSE TO PHASE 1 (IN ROOM) AND PHASE 2 OF ROOM)

	Flashover smoke	Light smoke	Medium smoke	Flames	Glass breaking	Warnings	Building alarm	See FB outside	Missing	Total
Evacuate immediately			1	2		9	3			15
Take control						2				2
Check corridor	1	8			1	12'	7			31
No action		8	2	1	2	5	15	5	1	37
Total Phase 1 key cues		8				23	10			
Total Phase 1 cues	1	16	3	3	3	28	25	5	1	85
Check corridor then evacuate		3 l/m smk				1 nosrnk 6 l/m smk	6 l/m smk			
Check corridor, return		3 l/m smk				1 no smk 2 l/m smk 2 h smk	1 l/m smk			

Notes: The shaded areas represent the IRM cues for ANFO occupants.
l/m smk = Light or medium smoke in the corridor; h smk = heavy smoke in corridor

TABLE 4. PROBABILITIES DERIVED 3

	Cues and action in room, Phase 1			Cues and action at door of room on checking corridor			
Cue	P_1 (evacuate)	P_2 (investigate)	P_3 (no action)	P_4 (evacuate given no smoke)	P_5 (return given no smoke)	P_6 (evacuate given light/medium smoke)	P_7 (return given light/medium smoke)
Light smoke	0/16	8/16	8/16	0	0	3/8	5/8
Warnings 1	1/28	12/28	5/28	1/2	1/2	6/8	2/8
Building alarm	3/25	7/25	15/25	0	0	6/7	2/7

With regard to Table 3, note the following:

- there are more cues than individuals because individuals can have more than one cue in Phase 1.
- The "return" cases for people who check the corridor include a person who watched fire
- One person who investigated after a warning, saw no smoke & took control, and one who saw light/medium smoke are included as evacuees
- One person who investigated after an alarm, saw l/m smoke and took control, is included as an evacuee.

Response to Light smoke received in the apartment or room
In 8 of 16 cases where Light Smoke is perceived in the room/apartment initially occupied, the response is to check the corridor. For the 8 remaining cases, smoke is not the primary cue leading to action.

Response to Warnings from other people received in the apartment or room
Five of 28 people who received warnings did not have warnings as the key cue for action. When warnings are received, 9 of 23 occupants evacuate immediately and 2 move to fight the fire or organise others to evacuate, 12 check the corridor. There is an active response to warnings, no non responses.

Response to Building alarms received in the apartment or room
Building alarms operated in incidents involving 31 occupants, though only 25 reported a building alarm in Phase 1. Of the remaining 6 cases, one was in the apartment of fire origin and evacuated on seeing flames before the alarm sounded (Case no. 204/2.01), two were aware of and were fighting the fire when the alarm rang (201/1.00 and 201/4.02), two people slept through the alarm but evacuated after warnings (201/9.08 and 201/13.08) and one person slept through the whole incident (201/18.07). In 3 of 25 cases where a building alarm is heard, occupants evacuate immediately, and in 7 of the 25 cases occupants move to check the corridor. The remaining 1.5 do not respond to that cue or have another cue as the main cue for action.

Table 5 records the actions of *all* people who investigate cues further by going to the corridor without discriminating the key cue for moving to check the corridor. This includes occupants who are evacuating to IRM cues *and other cues*. The table shows some support for the decision to include 3 smoke conditions (no smoke, light and medium smoke, and heavy smoke), although there are only two cases where there is no smoke in the corridor. 1.5 of 23 people who face Light or Medium smoke make a decision to evacuate (combining the numbers who take control by fighting the fire and/or organising other occupants with those who evacuate), 6 of 23 do not move from the room (combining the numbers who return and the numbers who draw back). The 2 cases where people move away from their apartments to observe fire-fighting activities are regarded as non-evacuees. This gives final figures for response to Light or Medium smoke as 15/23 evacuate, 8/23 stay. The response to heavy smoke is to draw back, also the response of people who face heavy smoke on evacuating.

Table 6 lists the smoke conditions in the corridor faced by all people who started evacuating and the response. The 32 cases include all the evacuation cases on the database (ie. they include people who evacuated in response to any cue in any phase). In the IRM, people who face heavy smoke are assumed to turn back. On the database, the only person who faces heavy smoke on entering the corridor after deciding to evacuate returns to the room. All others continue to evacuate, whether there is no smoke, light or medium smoke.

TABLE 5. RESPONSE OF PEOPLE WHO CHECK CORRIDOR TO CORRIDOR SMOKE CONDITION

	No smoke	Light smoke	Medium smoke	Heavy smoke	Total
Evacuate		11	2		13
Take control	1	1	1		3
Return	1	2			3
Draw back		2	2	4	8
Other		2			2
Total	2	18	5	4	29

Note: "Other" refers to people who leave the apartment to watch the fire and watch others fighting the fire

TABLE 6. RESPONSE OF PEOPLE WHO START EVACUATING TO CORRIDOR SMOKE CONDITION

	No smoke	Light/med smoke	Heavy Smoke	Total
Continue	8	23		31
Drawback			1	1
Total	8	23	1	32

APPENDIX E3: TIMES TO START ACTION FROM RESPONSE IN FIRES DATABASE

P. BRENNAN & B. DOUGHTY 1997 February

Data in this Appendix are based on the 53 cases on the Response in Fires database as of February 1997. All times are in seconds. Of the 53 cases, 28 people evacuate in response to cues nominated by the Interim Response Model (Light Smoke, Alarms, Warnings). Unless specified, the times are those for all people who evacuate regardless of the cues received. No reliable data on times were available for one case (ID 201113.05). This person is under 70 years of age and initially awake and investigated prior to evacuating.

Tables 1-3 give the times for people to initially respond to cues ie. they deal with the time until a person starts to investigate and/or evacuate. It will be readily seen that the breakdown of figures to deal with age groups and state of alertness as well as cues produces categories with very small numbers. Missing categories occur because there are insufficient numbers.

The tables provide summaries of key times directly applicable to the Interim Response Model. Further details of the statistics are available at CESARE but are not included in this report. Some statistics (eg. range, standard deviation) are included here to give an indication of the need for caution in accepting figures which are based on small numbers. To take into account the variability, 3 times will be used rather than a direct application of the mean time. A paper by A. M. Hasofer "Three -point representation of a distribution" on the mathematical method for selecting the three times is in draft form. The method takes into account the standard deviation, and the skewness and kurtosis of a distribution.

The tables show that times are longer for older people and for people asleep when they receive the first cue and that times extend further for older people who are initially asleep. Given that there are few cases, the direction taken by the figures is encouraging as it follows what is generally reported but what has not been quantified previously.

The times in Table 1 are for people who evacuate immediately in response to cues received in the apartment ie. who do not seek more information by opening the door to the corridor. There are 15 cases of evacuation occurring in Phase 1 but only 12 of these are in response to the three Interim Response Model cues. This is because there are 3 cases of direct evacuation where people are in the apartment of fire origin. They responded to Flames (n=2) and Medium Smoke (n=1). These cases have not been separated from the others in the calculation of times for starting evacuation. When there are sufficient number of cases on the database, AFO response will be distinguished from ANFO response. Because of the small number of cases, the mean time is strongly influenced by extreme values, particularly the 1020 seconds (17 minutes) by a person over 70 years who was initially asleep. It is considered that this time is probably an outlier for people in this class. As the database is extended this will be clarified. Although no final decision has been reached, outliers will probably be considered independently of the 3 points mentioned above and appear as a separate value.

Table 2 gives the times from the occurrence of the key cue leading to investigation until the person reaches the door to the corridor (time to investigation). In the Human Behaviour Model, it is assumed that people respond to cues immediately. While the times indicate that people who investigate act faster than people who evacuate, there is still a time lag before people move to check the corridor. This may require further adjustments to the model.

Table 3 gives the times from the occurrence of the key cue leading to investigation until evacuation starts for those people who evacuate after investigating. It does not take into account the smoke condition in the corridor seen by the person investigating. The smoke

condition often has nothing to do with evacuation - what really happens is that the people get information from others when they check the corridor. These times, as would be expected, are longer than for people who evacuate immediately. They also indicate that the time is extended with age (under 70 years/70 years and above) and state of alertness (asleep/awake).

TABLE 1. TIMES TO START DIRECT EVACUATION - PEOPLE WHO LEAVE IN RESPONSE TO CUES IN THE ROOM, WITH NO INVESTIGATION PHASE

Cases & condition	N	Mean	S.D.	25 %ile	75%ile	Min. time	Max. time
All	15	199	279	60	240	10	1020
Asleep	10	267	171	45	195	30	1020
Awake	5	62	322	52	345	10	120
70 and over years	2	540	679	60	.	60	1020
<70 years	13	146	171	45	195	10	660
<70, asleep	8	199	203	52	240	30	660
<70, awake	5	62	39	35	90	10	120
Light smoke	0						
Alarms	3	310	321	30	.	30	660
Warnings	9	201	315	45	195	10	1020
Warned, asleep	7	249	347	60	240	30	1020
Warned, awake	2	35	3.5	10	.	10	60

TABLE 2. TIMES TO START INVESTIGATION - PEOPLE WHO GO TO DOOR TO CHECK FOR FURTHER INFORMATION FROM CORRIDOR

Cases & condition	N	Mean	S.D.	25%ile	75%ile	Min. time	Max. time
All	28	53	56	30	60	5	300
Asleep	5	73	69	30	60	30	300
Awake	14	33	30	10	30	5	120
70+ years (all asleep)	6	90	104	30	120	30	300
<70 years	23	43	31	30	60	5	120
<70, asleep	9	60	28	38	60	30	120
<70, awake	14	33	30	10	30	5	120
Light smoke	8	31	13	30	30	10	60
Light smoke, asleep	2	45	21			30	60
Light smoke, awake	6	27	8	25	30	10	30
Alarms	7	91	110	24	165	5	300
Alarm, asleep	5	128	121	38	255	30	300
Alarm, awake	2	18	18			5	30
Warnings	12	42	20	30	60	10	60
Warned, asleep	8	53	14	38	60	30	60
Warned, awake	4	20	12	10	30	10	30

TABLE 3. TOTAL TIME FROM KEY CUE TO START OF INVESTIGATION UNTIL START OF EVACUATION - PEOPLE WHO CHECK THE CORRIDOR BEFORE MAKING A DECISION TO EVACUATE **IE.** TIME TO START INVESTIGATION ***PLUS*** TIME TO START EVACUATION

Cases & condition	N	Mean	S.D.	25%ile	75%ile	Min. time	Max. time
All	13	282	313	107	345	40	1260
Asleep	8	356	378	152	375	120	1260
Awake	5	165	127	65	300	40	330
70+ years (all asleep)	3	590	590	150	.	150	1260
<70 years	10	190	112	94	285	40	380
<70, asleep	5	215	102	138	310	120	380
<70, awake	5	165	127	65	300	40	330
Light smoke (all awake)	3	230	125	90	.	90	330
Alarms	4	175	136	60	315	40	360
Alarm, asleep	3	220	125	120	.	120	360
Warning (all asleep)	5	437	469	153	820	150	1260

APPENDIX E4: DESCRIPTION OF INCIDENTS ON RESPONSE IN FIRES DATABASE

P. BRENNAN & B. DOUGHTY 1997 February

The details in these summary reports are compiled from interviews with occupants and observations by interviewers of the fire scene up to four weeks after the incident and from some limited information supplied by the fire-fighting services. Post-fire analysis reports prepared by the fire services for any incident have not been used. The primary task of the interviewers is to understand the nature of the experience from the occupant's point of view. The interviewers have no training in fire analysis or building assessment, and in a very small number -of situations did not see the interior of the buildings. The information therefore must be taken as giving as accurate an account as can be obtained under such limiting circumstances.

The incidents refer only to cases on the database. As already stated, not all cases from each incident are entered on to the database. For example, people not in an apartment at the time of the first cue or who enter the building in response to cues are not included. (It is for this reason that Case 101 was withdrawn). There are additionally a number of incidents from which data have been collected but not in a form applicable to the database. The Incident Database Number indicates the particular incident and the researcher involved in data collection (Doughty 102-105, Brennan 201-206).

INCIDENT DATABASE NO. 102

BRIEF DESCRIPTION

Night fire in backpackers accommodation started around laundry storage area on ground floor, possibly due to electrical fault. Fire spread caused heavy smoke and flame in central *stairs*. Contained by FB after reaching top floor. Eight (10) in backpackers area evacuated and some (?) from adjacent building towers.

BUILDING FEATURES

BCA Class & description (include sub-class features (eg. boarding house / hotel / apartment / hostel) and any particular features eg. non-residential floors in hotels)

3. Backpackers accommodation. The building where the fire developed is BCA Class 3 accommodation (transient, extended into long term accommodation). That building (older) is in the middle of two Class 2 towers, which *were* not involved in the fire.

Number of levels (ground =1, any basement levels listed separately)

3

Construction material(s)

Brick and timber

Design features (basic shape, presence, no. & location of open (internal/external) stairs, no. & location of enclosed fire stairs, lifts)

The backpackers building comprises an approx. square area of 2 levels with a large *wooden* open stair taking up about one quarter of the square. An open corridor surrounds the stair on the upper level (level 3), leading to rooms. Joining the stair at mezzanine level (level 2) is an attached small rectangular area containing rooms. There are more rooms on the ground level (level 1), including an apartment in which the manager of the whole complex resides. Exits from these rooms vary. A door from the corridor around the large open stairs and another from a (blocked) storeroom open to a fire escape platform leading to open external steel stairs. The whole Class 3 area appears to be old and have undergone many inconsistent changes and additions. There are no lifts and no fire stairs.

External dimensions (approx.)

Square area (levels 1 & 3, see above) approx. 13 metres x 13 **metres. Attached rectangular area** at mezzanine level (level 2, see above) approx. 9 metres x 5 **metres.**

No. of apartments/rooms per floor (State which eg. rooms if a boarding house)

The open corridor surrounding the stair on 'level 3' leads to 4 'apartments' of one or two rooms only. The small rectangular area of 'level 2' contains 2 'apartments' of one or two rooms only. There are 3 small 'apartments' on ground level, 'level 1'.

Safety systems (If any. Alarm type(s), presence of extinguishers)

None

Length of corridor (approx.] (Location & shape if not central and straight)

Several corridors; main one surrounds central stairs in square shape, each corridor (a side of the square) approx. 5 metres long.

FIRE

Origin (location, materials if known)

Possibly started by electrical fault. Ground level laundry storage area involved first.

Flame spread
Flame spread around open stairs area causing some fire damage on upper levels, including level 3).

Smoke **spread**
Heavy smoke on all levels in open stairs area.

Main avenue(s) of smoke spread
Through open stairs

Time & method of FB alert
0145 hours by telephone exchange

Time of FB arrival
1st unit 0148 hours, 2nd unit 0148 hours

State of fire on arrival of FB
Well developed on level 1 and around open stairs area

FB activity
Contained fire and provided ladders for some evacuates (on levels 2 and 3) and physically helped one evacuee (on level 2)

PEOPLE

No. in building (approx.)
10 in backpackers accommodation. Approx. 45 in units in adjoining towers

Population description
6 male low income, long term residents (levels 1, 2 management (level 1) 2 tourist backpackers (level 1) and 2

No. who evacuated and from which floors (approx.)
All 10 of the above people evacuated. Some (?) evacuated from units in adjacent towers

No. of interviewees & from which floors
2 interviewees: Level 1
2 interviewees: Level 2
2 interviewees: Level 3

Summary description of occupant response
Occupant **response in** the adjacent tower buildings is not known. The manager of the accommodation disagreed with radio and newspaper reports that 45 or 50 people evacuated.

In the backpacker accommodation, one occupant on level 3 was awake at time of fire and investigated after smelling smoke in his room. He alerted all other occupants on levels 2 and 3 by yelling. He waited for an appropriate response from his two brothers, each in a separate 'apartment', before they all evacuated, using means ranging from use of FB ladder to climbing down or tying bed sheets together as a form of rope. Two others on level 3 made their way out of the building by reaching open external stairs. One occupant on level 2 waited for FB physical help due to a degree of physical handicap. On level 1, smoke, heat and the sound of remote warnings led to evacuation of all occupants, although one occupant remained asleep until her partner had twice investigated the fire situation. All 10 residents evacuated from the endangered backpacker accommodation.

INCIDENT DATABASE NO.: 103

BRIEF DESCRIPTION

Night fire. Burning couch on level 3 in stair landing near open stairwell window broke the window and caused smoke logging on levels 2 and 3. All occupants, except interviewee on level 3, evacuated by direct warnings from 2 level 3 residents.

BUILDING FEATURES

BCA Class & description (include sub-class features (eg. boarding house / hotel / apartment / hostel) and any particular features eg. non-residential floors in hotels)

2. Flats

Number of levels (ground =1, any basement levels listed separately)

3

Construction material(s)

Brick

Design features (basic shape, presence, no. & location of open (internal/external) stairs, no. & location of enclosed fire stairs, lifts)

Approx. square building with central concrete stairs, open to the flats on each landing. Large glass window, level with external wall of building, on each landing. No lifts, no fire stairs.

External dimensions (approx.)

13 metres x 12 metres

No. of apartments/rooms per floor (State which eg. rooms if a boarding house)

Car park: level 1
3 flats: level 2
3 flats:. level 3

Safety systems (If any. Alarm type(s), presence of extinguishers)

None

Length of corridor (approx.) (Location & shape if not central and straight)

'U' shaped concrete stairwell landing forms 'corridor' to the 3 flats on levels 2 & 3; approx. 10 metres total length

FIRE

Origin (location, materials if known)

Couch on level 3 stair landing near window possibly ignited by bundle of junk mail recently left on level 1. FB treating as suspicious fire.

Flame spread

Couch only involved, window broken by flame heat

Smoke spread

Smoke logging of levels 2 and 3 of building

Main avenue(s) of smoke spread

Via. open stairwell.

Time & method of FB alert

Many telephone calls to FB from people who saw smoke issuing from the block of flats at approx. 0025 hours. Exact time of alert not known; suspicious fire.

Time of FB arrival

FE called ambulance, which arrived before FB, in case of injury, as situation seemed confused. Exact time of FB arrival not known; approx. 0030.

State of fire on arrival of FB

Couch only still burning

FB activity

Knocked out remainder of broken glass in window near couch. Occupants already evacuated. Other unknown.

PEOPLE

No. in building (approx.)

Approx. 12

Population description

Older couple, couple with children, group (level 2), lone person and group of 2 (level 3)

No. who evacuated and from which floors (approx.)

All occupants evacuated; approx. 9 from level 2 and 3 from level 3.

No. of interviewees & from which floors

1 interviewee: Level 3

Summary description of occupant response

Interviewee awoke to noise of shouted warning and failing glass (at least 3 times) and ambulance light outside. Dressed, saw fire glow through door peephole, decided to evacuate and opened door. Paused, then evacuated, just behind the 2 other level 3 residents. The 9 people from level 2 had already evacuated, following direct warnings from the 2 level 3 residents who evacuated just ahead of **the interviewee.** FB arrived approx. **2 n-tins. after** interviewee **had** exited building.

INCXDENT DATABASE NO.: 104

BRIEF DESCRIPTION

Night fire in special accommodation home on 2nd level. Fire confined to a mattress. One of **2** residents of RFO was in common room on ground level at time fire started, noticed fire upon return to room. FB, using BA, evacuated 10 people from level 2 who had been asleep and used *fire* hose. Approx. **30** others evacuated (by on-site supervisor?). Smoke detectors and building alarm were working effectively, according to FB.

BUILDING FEATURES

BCA Class & description (include sub-class features (eg. boarding house / hotel / apartment / hostel) and any particular features eg. non-residential floors in hotels)
3. Special accommodation home

Number of levels (ground =1, any basement levels listed separately)
2

Construction material(s)
Brick

Design features (basic shape, presence, no. & location of open (internal/external) stairs, no. & location of enclosed fire stairs, lifts)
Rectangular, with stairs at each end, with central corridor running from one end of building to the other. No lifts or fire stairs.

External dimensions (approx.)
25 metres x 10 metres

No. of apartments/rooms per floor (State which eg. rooms if a boarding house)
Approx. 15 'apartments' (of 1 or 2 rooms only) on each of 2 levels.

Safety systems (If any. Alarm type(s), presence of extinguishers)
Corridor smoke detectors connected to building alarm. BGA downstairs. Some extinguishers and fire hose/s.

Length of corridor (approx.) (Location & shape if not central and straight)
Approx. 15 metres

FIRE

Origin (location, materials if known)
Possibly started by cigarette on mattress.

Flame spread
Confined to mattress

Smoke spread
Heavy smoke in RFO. Some smoke spread to corridor on same level (level 2)

Main avenue(s) of smoke spread
Opening of APO door during investigation.

Time & method of FB alert
Not known. Approx. 0500 hours

Time of FB arrival
Not known. Approx 0505 hours

State of fire on arrival of FB
Fire still confined to mattress

FB activity
FB used fire hose and threw mattress out RFO window. FB evacuated 10 people from level 2.

PEOPLE

No, in building (approx.)
40

Population description
Unemployed people with various mental and physical illnesses

No. who evacuated and from which floors (approx.)
40 evacuated in total from levels 1 and 2

No. of interviewees & from which floors
1 from level 2; AFO resident.

Summary description of occupant response
Occupant of fire apartment (interviewee) was downstairs, awake, in common room. His room-mate was also in common room, asleep. Interviewee went up to his room and found mattress burning. He pressed buzzer in room to alert night manager, who came up to room and had a look, but too much smoke to go in to room. He called FB. Night manager knocked on doors on 2nd level to warn occupants, just as FB arrived. All from level 2 and AFO went down and waited outside building. All 40 residents reportedly evacuated, according to FB. Unclear whether smoke detectors triggered, as FB reported smoke detectors 'all worked as they should have' in radio report, but interviewee did not report hearing any alarm. Also, FB information indicates that a fire was started at approx. 0200, the night manager was alerted, then he extinguished that fire without FB. Then, reportedly, the fire reported above was started or rekindled at approx. 0500.

INCIDENT DATABASE NO.: 105

BFUEF DESCRIF'TION

Day time fire, started by dislodgement of illuminated bedside lamp on to bed, involved all of one apartment, with significant smoke spread throughout the 3-level building. Three (3) occupants, including a woman and her 6 month old baby, and the interviewee, were transported to hospital suffering smoke inhalation. FB used the building's fire hose reel and nearby fire hydrant. FB evacuated all residents, breaking some doors. The building had no smoke detectors.

BUILDING FEATURES

BCA Class & **description (include sub-class features (eg. boarding house / hotel / apartment / hostel) and any particular features eg. non-residential floors in hotels)**

2. Apartments

Number of levels (ground =1, any basement levels listed separately)

3

Construction material(s)

Brick walls, concrete floors, metal roof deck.

Design features (basic shape, presence, no. & location of open (internal/external) stairs, no. & location of enclosed fire stairs, lifts)

Rectangular with open concrete stairs, one at each end of building, one apartment in from ends. No lifts, no fire stairs.

External dimensions (approx.)

Rectangular 30 metres x 10 metres.

No. of apartments/rooms per floor (State which eg. rooms if a boarding house)

5 apartments on each of 3 levels

Safety svstems (If any. Alarm type(s), presence of extinguishers)

No smoke detectors. Fire hose reels available.

Length of corridor (approx.) (Location & shape if not central and straight)

Stair landings form 'U' shape corridors. Each approx. 15 metres total length

FIRE

Origin (location, materials if known)

Fire started by dislodgement of illuminated bedside lamp on to bed

Flame spread

Involved all of one apartment, probably flashover. Apartment windows broke.

Smoke spread

Significant smoke spread throughout the 3-level building. Heavy smoke in stairwell at fire end of building were noted by interviewee during evacuation by FB with BA.

Main avenue(s) of smoke spread

Mainly in open stairwell at fire end of building. Also, external smoke from flashover was heavy around fire end of building. FE? breakage of AFO door, and door to apartment below interviewee's apartment, caused a cross flow of smoke from AFO door, through stairwell, through the apartment below, out the window of that apartment and up to interviewee's balcony. This and/or the outside smoke from flashover, endangered him as the balcony was his only safe refuge.

Time & method of FB alert

1309 hours by telephone exchange with resident of adjacent unit on level 2

Time of FB arrival

1st unit 1314 hours, 2nd unit 1315 hours

State of fire on arrival of FB

AFO fully involved in fire

FB activity

Building searched, a number of apartment doors broken and a number of residents evacuated, using BA. The installed fire equipment, fire hose reels and fire hydrant, were used for initial attack on the fire and later the hydrant was used as a water supply for the attending unit

PEOPLE

No. in building (approx.)

Unknown. Approx. 20

Population description

unknown

No. who evacuated and from which floors (approx.)

All of the approx 20 residents evacuated, from levels 1, 2 & 3

No. of interviewees & from which floors

1, from level 3 at one level up **from apartment** adjacent to AFO

Summary description of occupant response

Occupants of AFO were not present at time of fire. Occupant of apartment adjacent to AFO alerted FB. Interviewee had right foot in plaster and used crutches. He smelt smoke, heard sound of window 'popping' and saw outside smoke from flashover. He looked through peephole of his apartment door and saw resident of adjacent apartment evacuating. He opened kitchen window and saw billowing smoke from flat below. Saw people below, went back to lounge room, sat down then went to window. Smoke was much worse; concerned and decided to evacuate. Opened apartment door to corridor to face heavy smoke. Shut door, went back to kitchen to get air from window and heard FB arrive. Too much smoke there, so another look in corridor. Smoke much heavier, so 'raced' on crutches to balcony, but left apartment door open. Shut balcony door, lay on balcony floor (air clearer) and yelled for ladder (apartment was filling with smoke), After approx. 2 mins. 2 fire fighters came through apartment with BA. 'Hopped' down stairs escorted by them, wearing BA. Then taken to hospital for smoke inhalation. All occupants evacuated, whether with FB assistance or not.

INCIDENT DATABASE NO.: 201

BRIEF DESCRIPTION

Night-time fire confined to apartment on 3rd level of a high-rise Gold Coast building. Apartment severely damaged. Extinguishers and fire hose used by residents before arrival of FB.

BUILDING FEATURES

BCA Class & description (include sub-class features (eg. boarding house / hotel / apartment / hostel) and any particular features eg. non-residential floors in hotels)
3. Apartment building

Number of levels (ground =1, any basement levels listed separately)
18

Construction (age, timber/concrete/masonry)
1970s, steel & concrete

Design features (basic shape of building, presence, no. & location of open (internal/external) stairs, no. & location of fire stairs, lifts)
Rectangular building, apartments facing on to central corridor, 2 open staircases on either side of 2 lifts in middle of building, no fire stairs. No central air handling.

External dimensions (approx.)
35 x 20 metres

No. of apartments/rooms per floor (State which eg. rooms if a boarding house)
6-8 one-bedroom apartments

Safety systems (If any. Alarm type(s), presence of extinguishers)
Break glass alarm, connected to FB. Extinguishers and fire hoses on each floor.

Length of corridor (approx.) (Location & shape if not central and straight)
23 metres

FIRE

Origin (location, materials if known)
Bed/sitting room, started with curtains & furniture

Flame spread
Confined to apartment

Smoke spread
Light smoke on all levels above. Most smoke vented through window?

Main avenue(s) of smoke spread
Open **door of apartment**

Time and method of FB alert
0330 hours, BGA.

Time of FB arrival
0337 hours

State of fire on arrival of FB

Controlled

FB activity

As well as extinguishing the fire, they evacuated people from the upper floors because of smoke in the corridors.

PEOPLE

No. in

200

Population description

Night manager on premises. Many apartments sublet as holiday apartments. Many tenants who stayed a few days only were not available for interview. One busload of tourists had just arrived the previous evening after a day's travelling. One busload left the next morning, and another two days later. About half of the people interviewed were permanent residents. Many of the temporary ones were regular winter visitors - retired people who move north for some weeks in winter.

No. who evacuated and from which floors (approx.)

Uncertain but roughly 80, from all levels

No. of interviewees & from which floors

27 occupants from 23 apartments on 13 levels. The 23 apartments had a total of 33 people.

Summary description of occupant response

Lone occupant of fire apartment apparently woke to fire, tried ineffectively to fight it (no equipment) as well as moved possessions, alerted next apartment and activated break glass alarm. Night manager on duty was alerted by neighbour. Manager and two other tenants involved in controlling (and possibly extinguishing) fire, using fire hoses and extinguishers. Fewer than half the occupants of the total building, but most of those interviewed; evacuated. Those who evacuated did so in response to seeing others evacuating & smoke in the corridor after waking to the alarm or were told to evacuate by FB.

INCIDENT DATABASE NO.: 202

BRIEF DESCRIPTION

Night time fire starting in building materials left in corridor on 7th floor of 13 floor apartment building. Public housing, inner suburban MFB area.

BUILDING FEATURES

BCA Class & description (include sub-class features (eg. boarding house / hotel / apartment / hostel) and any particular features eg. non-residential floors in hotels)

2. Apartment building.

Number of levels (ground =1, any basement levels listed separately)

13

Construction material(s)

Steel & cement

Design features (basic shape, presence, no. & location of open (internal/external) stairs, no. & location of fire stairs, lifts)

Inverted S shape with lifts and services in the central section which basically joins two separate buildings. Fire stairs are at one end of each of the two separate buildings, the non-lift end. All apartments open on to a balcony-corridor which was designed to be open to the outside but now has perspex panelling (of which one third is louvred windows) above railing. Panels slide but require keys to open. Apartments undergoing conversion. Ground floor has meeting rooms.

External dimensions (approx.)

N/a

No. of apartments/rooms per floor (State which eg. rooms if a boarding house)

Varying. 12 flats on some levels, 4 or 5 flats on other floors. Building undergoing renovations. On fire floor there were 6 flats on the fire side and about 3 flats

Safety systems (If any. Alarm type(s), presence of extinguishers)

Each converted flat has wired smoke detectors with battery back up & fire extinguishers. Units have **l-hour rated fire doors. Fiie stairs at either end of building.**

Length of corridor (approx.) (Location & shape if not central and straight)

About 25-30 metres down each residential section.

FIRE

Origin (location, materials if known)

Fire started in building rubbish left in the corridor on the 7th floor near the lift lobby. Possibly deliberate.

Flame spread

Small fire (possibly malicious) confined mainly to object of origin but reaching high up wall.

Smoke spread

Panelling on external balcony-corridor caused smoke logging. Smoke entered some flats and set off smoke alarms on fire floor (flat across from the fire side near the lift lobby) and floor above (flats on fire side). Smoke close to the incident, but people standing at the end fire stairs could easily see firefighting activity.

Avenue of smoke spread

Along corridor, some into rooms through open vents (from kitchens, bathrooms) and possibly open windows. Smoke vents to outside through louvres - the panels were not opened until later.

Time & method of FB alert

0300 hours, 000 call

Time of FB arrival

N/a

State of fire on arrival of FB

Flaming

FB activity

No information.

PEOPLE

No. in

70+

Population description

Public housing. Primarily people over 60 and pensioners, mostly living solo. There is a live-in caretaker responsible for repairs, not supervision. Activities are arranged for these elderly citizens. The flats are being converted, reducing the number on each floor.

No. who evacuated and from which floors (approx.)

Number of evacuees unknown - very few if any. People on fire floor did not evacuate.

No. of interviewees & from which floors

From 7th and 8th floors only - 4 people. There were 4 or 5 people on the fire floor at the time.

Summary description of occupant response

No known evacuations from building. **One person,** reading at **the time, smelt smoke and after** ringing 000 went down the stairs to tell firefighters where the fire was, then returned via another set of stairs to join *one* or two others on the floor above the **fire** watching the **fire-fighting** activity. People came out of four of six apartments on her side of the building - some alerted by smoke detectors installed in their flats. Two occupants on fire floor (one had alerted the other) left their flats and moved towards the fire in the first instance then returned to their flats when the flames shot up. The fire was outside two flats undergoing conversion and so with *no* tenants. Egress from the next flat (at end of corridor) would have been blocked, but it was not determined and there is some doubt whether anyone was home.

INCIDENT DATABASE NO.: 203

BRIEF DESCRIPTION

Fire starting in residential room on Level 2 of a two-storey hotel at 0437 hours. The few occupants evacuated, one trapped on Level 2 via FB ladder. CFA area, large town.

BUILDING FEATURES

BCA Class & description (include sub-class features (eg. boarding house / hotel / apartment / hostel) and any particular features eg. non-residential floors in hotels)

3B Hotel

Number of levels (ground =1, any basement levels listed separately)

2

Construction material(s)

Double brick

Design features (basic shape, presence, no. & location of open (internal/external) stairs, no. & location of enclosed fire stairs, lifts)

Goldfields hotel, built in 1850s. Rectangular building located on a comer. Ground floor has bar, External fire stairs near one end of L-shaped corridor, internal stairs at the other.

External dimensions (approx.)

15 metres x 20 metres

No. of apartments/rooms per floor (State which eg. rooms if a boarding house)

On Level 2 there are about 6 residential rooms and bathrooms.

Safety systems (If any. Alarm type(s), presence of extinguishers)

Smoke detectors in corridors on residential level. Hand-held fire extinguisher.

Length of corridor (approx.) (Location & shape if not central and straight)

L shaped. First part at top of stairs about 5 metres, around comer about 10 metres. Stairs take up **half of first section of the corridor.**

FIRE

Origin (location, materials if known)

In room of a resident at top of stairs on Level 1. Started from an electrical heater too close to a vinyl couch.

Flame spread

Flames spread quickly from the couch to curtains and then to blanket used in an attempt to put out the flames. Tenant left door to room open on exiting. Room burnt out - furnishings destroyed.

Smoke spread

Smoke spread to corridor.

Main avenue(s) of smoke spread

Open door from rfo.

Time & method of FB alert

0437 hours. 000 call from the hotel.

Time of FB arrival

Not known. Arrived after publican had used fire extinguisher and exited to alert second resident from outside (could hear it coming as he was there).

State of fire on arrival of FB

Uncontrolled

FB activity

Rescue of second resident trapped in his room by smoke

PEOPLE

No. in building (approx.)

7

Population description

4 people including publican were socialising downstairs in the bar. Two residents, both young men.

No. who evacuated and from which floors (approx.)

All evacuated, one of residents via FB ladder from his room on Level 2.

No. of interviewees & from which floors

2. Occupant of room of fire origin on Level 2, and the publican who was on ground floor

Summary description of occupant response

Occupant of room of fire origin reported that he was awake watching TV and noticed the fire only when flames were shooting up from the vinyl couch. Tried but failed to extinguish it using a blanket and yelled to warn others. People below heard the yelling. Smoke detectors operated as occupant exited the attempted but failed to extinguish fire with **fire** extinguisher as others rang 000. Then exited to warn second resident who had not responded to calls. This resident reportedly had headphones on, and responded initially to the smell of smoke, opening his door to find the corridor full of smoke. There was a fire exit about 5 metres from his room. Responded to calls from outside and was eventually rescued by FB (CFA).

INCIDENT DATABASE NO.: 204

BRIEF DESCRIPTION

Fire starting in the kitchen on the ground floor of a two-storey hotel at 2300 hours. All residents evacuated. MFB area, central business district.

BUILDING FEATURES

BCA Class & description (include sub-class features (**eg. boarding house / hotel / apartment / hostel) and any** particular features eg. non-residential floors **in** hotels)

3B Hotel

Number of levels (ground =**1,** any basement levels listed separately)

2

Construction material(s)

Stone and brick

Design features (basic shape, presence, no. & location of open (internal/external) stairs, no. & location of enclosed fire stairs, lifts)

U-shaped. Building on a comer. Ground floor has public bar, bottle shop, restaurant and kitchen. Carpeted wooden central stairs to first level and wooden external stairs leading to a courtyard at the back. The short corridor from the foot of the central stairs to the exit is separated from the kitchen area by a dining room. No central air handling.

External dimensions (approx.)

Approximately 30 metres across the base of the U and 15 metres on the arms.

No. of apartments/rooms per floor (State which eg. rooms if a boarding house)

About 15 rooms on Level 2. Also an office for management, a communal kitchen/lounge and 2 bathrooms.

Safety systems (If any. Alarm type(s), presence of extinguishers)

Smoke detectors linked to the FB. Some extinguishers (one or two?). Fire blanket in kitchen (not used).

Length of corridor (approx.) (Location & shape if not central and straight)

18 metres across base of U, 10 metres down one side (external stairs near end) and about 5 metres down the other.

FIRE

Origin (location, materials if known)

In kitchen at cooker. Possibly accumulated oil or fat? Stove not being used at the time.

Flame spread

Confined to kitchen cooker within the room but passed up the flue into the subfloor which was singed. Flames visible from across kitchen.

Smoke spread

Through to the first floor where doors were not closed. Through ground floor but not into the bar as the door was closed. Not heavy smoke on second level but very noticeable. heavy layered smoke in kitchen.

Main avenue(s) of smoke spread

Via open doorways

Time & method of FB alert

Directly alerted on activation of smoke detectors.

Time of FB arrival

Unknown. Within one or two minutes of alarm activation in the building

State of fire on arrival of FB

Flaming

FB activity

Extinguish fire, instruct remaining occupants to evacuate.

PEOPLE

No. in building (approx.)

1.5. Most were alone. Bar etc were closed.

Population description

3 or 4 permanent tenants, a few who have been there for weeks and a few transients. Mainly younger people, some older men. Non-resident manager was present working in an office.

No. who evacuated and from which floors (approx.)

All evacuated eventually. About 15.

No. of interviewees & from which floors

4 interviewees, all on Level 1. Manager in office. Two in same room.

Summary description of occupant response

Alarm sounded. Time of day and previous alarms resulting from non-fire causes meant that there were some seconds of hesitancy before action was taken. Manager responded to noise of people but had heard the alarm. Female occupant responded first, smelling smoke on moving to corridor after hearing the alarm. Alerted male partner who investigated downstairs and, with the manager, employed **fire** extinguisher. Smoke **was layered (to about head height) and heavy when opened** door to kitchen. FB arrived almost at the same time (fire station **is** just up the road). A **number of** people only evacuated because instructed to do so by the FB (one knew there was a fire, had heard FB and yelling, saw hallway full of smoke, spoke to a firefighter ('Got a bit of a fire here, mate'), went to the toilet, returned to room for a beer and cigarette and was then instructed to leave.

INCIDENT DATABASE NO.: 205

BRIEF DESCRIE'TION

Fire confined to an apartment on Level 14 of a 20 level public housing building in inner suburbs. Mid-afternoon fire on a working day. Severe damage to apartment.

BUILDING FEATURES

BCA Class & description (include sub-class features (eg. boarding house / hotel / apartment / **hostel) and any particular features eg. non-residential floors in hotels)**

3. Apartment building

Number of levels (ground =1, any basement levels listed separately)

20

Construction material(s)

Steel and cement

Design features (basic shape, presence, no. & *location* of open (internal/external) stairs, no. & location of enclosed fire stairs, lifts)

Inverted S shape with lifts and services in the central section which basically joins two separate buildings. Fire stairs are at one end of each of the two separate residential sections, the non-lift end. All apartments open on to a balcony-corridor which was designed to be open to the outside but now has perspex panelling (of which one third is louvred windows) above railing. Panels slide but require keys to open. The two lifts service alternate floors. Housing office and meeting rooms on ground floor. Part of a complex of buildings. No central air handling.

External dimensions (approx.)

Each of the two residential sections is approximately 8m x 40m.

No. of apartments/rooms per floor (State which eg. rooms if a boarding house)

9 per floor. On fire side section there were 4 apartments, on non-fire section 5 apartments. One and two bedroom apartments.

Safety systems (If any. Alarm type(s), presence of extinguishers)

No building-wide alarms. No extinguishers. Hose reels on each floor. Some flats may have smoke detectors or extinguishers.

Length of corridor (approx.) (Location & shape if not central and straight)

Corridor approximately 35 metres down each of the 2 residential sections. The two corridors are separated by about 8 metres of lift/service area.

FIRE

Origin (location, materials if known)

In bedroom, possibly from a powerpoint.

Flame spread

3 rooms - bedroom (rfo), bathroom and adjoining section of passage.

Smoke spread

Heavy smoke spread within apartment. Spread along corridor/balcony outside the apartment (presumably after occupants evacuated). Much smoke vented to the outside through the louvred windows but initially corridor was smoke logged. Smoke did not spread to residential section on other side of lift area.

Main avenue(s) of smoke spread

Smoke entered some apartments through open windows and kitchen and bathroom vents opening on to the corridor/balcony.

Time & method of FB alert

000 call (First call from outside the building. Of the 12 calls, 4 were from within the building, 6 from digital phones and one from down the road).
1548 hours

Time of FB arrival

Not obtained. First communication back was at 1602 when fir fighters decided to evacuate the fire floor.

State of fire on arrival of FB

Not controlled. Confined to the apartment.

FB activity

1602 - message that floor was being evacuated due to smoke logging

PEOPLE

No. in

Unknown. Normally about 400 but it was a working day and most children were not home from school.

Population description

Public housing tenants. Multicultural with Vietnamese probably the largest ethnic group. Fairly high level of unemployment. Building has day and night security guards and a Housing office on the ground floor.

No. who evacuated and from which floors (approx.)

All who were interviewed from the fire floor and the floor above on the fire side of the building evacuated at very different times.

No. of interviewees & from which floors

12 people interviewed. Two security guards, and 10 people from 8 apartments which had 24 people in them. Interviewees were from the fire floor and the floor above, mostly from the fire side of the building.

Summary description of occupant response

2 parents were with their 2 toddlers in lounge. The father, investigating an unusual popping noise, opened the bedroom door. Smoke (possibly flames?) rushed out and the family evacuated immediately. The yelling alerted the neighbour on one side (the other side was not interviewed) who immediately evacuated with infant. Most other people smelt smoke. Most went to take a look. Indeed, there were apparently a number of people who arrived in or near the fire stairs to watch the scene. Two people outside (one works in the neighbouring building) saw smoke venting, ran up stairs, opened door believing people might be inside. They also directed someone to call 000. They rolled out the fire hose and fed it through the door and window but pressure was weak. Most people evacuated on instruction either from building management/ security guards/ fire brigade. Everyone interviewed used the lift except for two children who obeyed the instruction to take the fire stairs. Some moved to the floor below to take the lift, others caught it on the fire floor.

INCIDENT DATABASE NO.: **206**

BRIEF DESCRIPTION

Night time fire in a special residential service hostel. One staff member on duty, 36 aged residents, some intellectually disabled some in varying stages of dementia. Building classified as a hostel, not a nursing home. CFA area - unmanned fire station.

BUILDING FEATURES

BCA Class & description (include sub-class features (eg. boarding house/hotel / apartment / hostel) and any particular features eg. non-residential floors in hotels)

3D

Number of levels (ground =1, any basement levels listed separately)

1

Construction(s)

Brick

Design features (basic shape, presence, no. & location of open (internal/external) stairs, no. & location of enclosed fire stairs, lifts)

Pm-pose-built accommodation hostel. L-shaped with the long part of the L containing most of the rooms around a central dining-room, recreational room and kitchen which are built across the straight central corridor. Smoke doors between central dining-room and the residential wing where the fire was. Regular checks by FB (CFA) of fire plan, exits, heat detectors and direct connection to CFA. Two exits in the fire wing. A number of other doors to the outside in the rest of the building.

External dimensions (approx.)

Not known - building not seen.

No. of apartments/rooms per floor (State which eg. rooms if a boarding house)

About 20 bedrooms.

Safety systems (If any. Alarm type(s), presence of extinguishers)

About 7 building alarms operated by smoke detectors in rooms and in corridors. Smoke doors.

Length of corridor (approx.) (Location & shape if not central and straight)

N/a

FIRE

Origin (location, materials if known)

In bedroom of a resident.

Flame spread

Bedroom and hallway. Flames observed to leap out into the garden.

Smoke **spread**

Increasing smoke observed in corridor as people were being evacuated, though rfo door was closed. Considerable smoke damage in corridor. Most smoke probably vented through window.

Main avenue(s) of smoke spread

Limited within building.

Time & method of FB alert

2101 hours: direct alarm at fire station. 2103 hours: 000 call. 000 call from supervisor after the alarm sounded in the hostel received at fire station at 2104 - received as First CFA personnel arrived at fire station. Three calls were received in all.

Time of FB arrival

2108 hours

State of fire on arrival of FB

Room of fire origin heavily involved.

FB activity

Apart from extinguishment and checking that all residents were out, were involved in activating DISPLAN.

PEOPLE

No. in building (approx.)

37

Population description

One staff member on duty, 36 aged residents, some intellectually disabled some in varying stages of dementia. One person in a wheelchair.

No. who evacuated and from which floors (approx.)

37 all from rooms on the ground floor. 4 residents had not retired and were watching TV.

No. of interviewees & from which floors

1 - the supervisor involved in evacuating all residents. Other residents not able to be interviewed,

Summary description of occupant response

Person on duty had put all except 4 occupants to bed, given them their medication, and returned to the office when the alarms sounded. **Went** to the other residential section and saw smoke coming from under the first door after the closed smoke door in the corridor. Occupant standing inside, flames behind him. She pulled him out, moved him past the **fire** door then alerted each of the other occupants, most of whom were asleep. One person had to be lifted on to a wheel chair. Then rang FB, returned to direct the residents. Brought them back past the room of fire origin and through the corridor smoke door because it was easier to follow a procedure that the patients knew rather than make them go through either of the two other exits available. All from fire section out by time of arrival of FB, possibly a few still moving out as CFA arrived.