APPENDICES

APPENDIX I: JUSTIFICATION OF THE INVESTIGATION

1. Notification and investigation of the Safety Board

In the night of 26/27 October 2005, the Safety Board received reports from the media of a major fire at the Detention Centre Schiphol-Oost. During the night, a Safety Board investigator went to the site. In view of the criminal investigation being carried out by the Public Prosecutions Department (OM), the site was originally designated as a 'Crime Scene'. During this time, the Safety Board cooperated closely with the OM in investigating the site. When, in January 2006, the 'Crime Scene' status was lifted, and the site was allocated the status 'Incident Scene'. The Safety Board had sole access to the part of the detention centre where the fire had broken out up until the period in which the draft report was sent for comment to parties en persons involved in July 2006.
On 31 October 2005, the Board approved the investigation proposal and approved the plan of action by on 28 November 2005. The list of the investigation questions is attached. The Board has also included questions in this list asked by the House of Representatives.

2. Release of victims' bodies

The OM performed autopsies on the bodies of the eleven deceased. The Safety Board had an additional examination carried out after this. On Friday 4 November, the Safety Board released the bodies to the OM.

3. Cooperation with inspectorates and the Municipality of Haarlemmermeer

In the light of experiences with the investigation of the fire at a cafe in Volendam and the fireworks explosion in Enschede, the Safety Board deemed it vitally important for the investigative bodies to combine their experiences as much as possible. At a very early stage, the Safety Board, the inspectorates involved (see below) and the Municipality of Haarlemmermeer, together with the Ministry of Justice and the Ministry of the Interior and Kingdom Relations, deliberated on to the pending investigation and a decision was taken not to set up a separate inspectorate investigation alongside the Safety Board's investigation. Personnel from the inspectorates would be seconded to the Safety Board and bring their own specific expertise to the investigation. This involved staff from the Inspectorate for Public Order and Safety (IOOV), the VROM[1] inspectorate, the Inspectorate for Health Care (IGZ) and the Sanctions Application Inspectorate (IST).
In addition, a parallel investigation was carried out into the fire safety of other similar detention centres. The investigation was carried out under the direction of the cooperating inspectorates. The Safety Board was able to submit investigating questions in this investigation (see also chapter 9). The Municipality of Haarlemmermeer instigated its own short-term investigation into the way it operated itself. Its findings were published in December 2005 (see also chapter 9).

4. Scope of the investigation

The investigation carried out by the Safety Board focussed on the underlying factors which contributed to this major fire. The object of the investigation was a detention centre. There are over a hundred of these centres throughout the Netherlands. Only some of these represent temporary facilities such as those at Schiphol-Oost. Fires in prisons are not uncommon, but rarely do they result in casualties. In view of the large number of prisons in the Netherlands and the regular occurrence of fires, the Safety Board expected a sharp learning curve from this fire.
The guiding principle for the investigation was formed by the questions listed below. These focussed partly on finding out the facts, partly on what can be learnt from the fire. The fire raised a large number of questions. The Safety Board was not able to answer all these questions within the available time frame, so a selection has been made, concentrating on the causes of death of

1 VROM - Ministry of Housing, Spatial Planning and the Environment

eleven detainees. The following questions have not been answered or only partly[2]:

- How did the municipal management team function during the fire?
- How should the overall fire fighting operations be evaluated? (That is, separately from the question as to the role of the fire brigade in saving the lives of detainees.)
- How did the ambulance service perform?
- How did the regional organization of emergency services effect the performance of these services?
- How should the licensing procedure for the whole detention and deportation centre be evaluated? (The focus was on J and K Wing.)
- What was the quality of aftercare at an individual level? (The focus was on the group of detainees in J and K Wing.)
- How many detainees are suffering from PTSD[3]-related complaints?
- How was the aftercare in the long term (after three months)?
- What is the deportation procedure after the fire in the detention centre?

During the investigation, the Board learned that a number of Government Buildings Agency (RGD) staff engaged in the construction of the detention centre (project management) were suspected of being involved in fraudulent activities. The Board has not carried out a more detailed investigation into the possible consequences of these fraudulent activities in relation to the condition of the building and the fire itself.

5. Investigations by other parties

The fire was investigated by the Public Prosecutions Department (OM). The OM suspects arsons and places a suspect in detention. The results of the forensic examination of the buildings, the fire and the victims have all been made known to the Safety Board. The Safety Board has made the results of standardized fire testing known to the OM. These are tests carried out to a specific standard. The results of the fire tests, which the Safety Board based on its own judgement, have not been passed on to the OM.
In addition to the OM investigation, the solicitor of the suspect and a group of former detainees has also carried out investigations, holding the Dutch state accountable. The investigation carried out by the Municipality in Haarlemmermeer has already been mentioned earlier.

6. Information sources

Interviews and police statements (criminal investigations/the Royal Military Constabulary[4] (KMar))

As part of its investigations, the Safety Board conducted interviews with the following people:

- cell occupants of J, K and D Wing (61 individuals in total)
- staff and management of the Detention Centre Schiphol-Oost (including the KMar, the DJI and Securicor security staff)
- staff and management of the Haarlemmermeer, Schiphol and Amstelveen fire brigades
- counsellors (aftercare) and management at Zeist and Rotterdam detention centres
- counsellors (aftercare) and management at GHOR[5] Utrecht and Amsterdam, COA[6] and MOA[7] Ulrum
- surviving relatives
- management of the DJI
- staff and management of the RGD
- staff and management of the Municipality of Haarlemmermeer
- management of the architect's office
- management of the contractors and suppliers

2 This list is of course not exhaustive.
3 Post-traumatic stress disorder
4 KMar - Royal Military Constabulary
5 Medical Assistance in Accidents and Disasters
6 Central Agency for the Reception of Asylum Seekers
7 Medical reception of asylum seekers

A total of 211 interviews were conducted.

In addition a total of 113 police statements were made available from the criminal investigation procedure.
To some degree, the Safety Board spoke to the same people as the Public Prosecutions Department. During interviews with the Safety Board, individuals were invited to provide relevant information about the incident. In interviews with the Public Prosecutions Department, individuals are allowed to remain silent in order not to incriminate themselves. This fact justified the Safety Board carrying out its own interviews. Additionally, the Safety Board held many interviews which were not relevant with respect to the criminal proceedings, but for gaining an understanding of the incident itself.
Interviews and statements contain subjective information. These interviews place big demands on an individual's memory. The interviews about the events during the night of the incident were held two to six weeks after the fire and in some cases even later. In view of the fact that statements had been taken at an earlier stage, information could also be verified on the basis of the police statements and other sources. Another drawback to interviews is that individuals tend to give socially acceptable answers and responses which are determined by their circumstances (including pending deportation). As a result, the exact time and nature of the incident are no longer fully reliable; for background information, the level of reliability is higher. By combining information from various sources, this problem is alleviated. It goes without saying however, that the Safety Board is depended on the information provided.

Documents
The Safety Board received large amounts of documents. The Municipality of Haarlemmermeer delivered no less than 22 archive boxes to the offices of the Safety Board. All these documents were examined. Also for these documents the Safety Board was dependent on the information provided. For this reason, during the investigation, the Board put out an extra appeal to all parties involved[8], to check on whether all relevant documents or information had been handed over. This resulted in a limited number of responses. On the basis of the responses to the draft report and the references made to documents not made available to the Safety Board, the Board made additional requests to parties involved for these documents to be made available.

Camera images
From 23.00 hours to just after midnight on the evening of 26 October 2005, images from eleven cameras were available of K Wing where the fire broke out and the adjacent J Wing. This information is objective and available in real time and as such, extremely useful in establishing the chronology of events (time-line)[9]. However, it should be added that images might be distorted as a result of camera angle registration. Camera images are also available of the perimeter area, D Wing and the central corridor of the complex. Camera registration however, was not possible in J Wing due to a missing component of the registration system.

Transcripts
Recordings are available of conversations in the emergency control rooms (Central Ambulance Switchboard (CPA), Kennemerland police headquarters, the Schiphol's emergency control room, Amsterdam Regional Emergency Control Room (RAC) and the KMar switchboard). With the exception of audio recordings in the KMar switchboard, these recordings are in the possession of the Safety Board. The audio recordings from the first hour immediately following the fire have been converted into transcripts. Likewise, this information is objective (through direct observation) and in real time (useful for the chronology of events (time-line)).

Personal Alarm and Location System
A Personal Alarm and Location System consists of a transmitter and a number of receivers. It is similar to a Pager or Buzzer system. Every guard carries a Personal Alarm and Location System. If he or she presses the button, this alerts all his or her colleagues. It is possible to see in which part of the complex (wing) the event has occurred. Registration of the Alarm and Location System's data provides objective information on the exact location and time of the alert.

8 The letter is dated 17 May 2006.
9 See page 4 of this appendix.

Records of Fire Alarm System and the intercom
All detections/actions and outgoing control signals of the fire/smoke detectors are saved to the memory of the fire alarm system. The memory of the fire alarm system in K wing did not survive the fire. However, all reports/signals from the fire alarm system in section F have been saved. This provides objective data with actual times known. In addition, data from the intercom system has also been saved.

Mobile telephone data
Various actors used their mobile phone during the fire. The location and time of these calls can be fixed by requesting registration of the mobile phone details.

Calibration of times for camera images
In order to calibrate the camera times, the Netherlands Forensic Institute (NFI) has used two independent methods. Firstly, by calibrating the internal clock of the video system against an atomic clock almost directly after the fire (approximately 2 days). Secondly, by comparing the times of the camera images (recordings of intercom lights above cell doors) with the times that the intercom signals were received on the intercom system (with calibrated times). The outcome of both methods was almost exactly the same, namely a difference of between -6.19 and -6.20 minutes. To double check, the Safety Board compared the corrected times of the camera images with other independent time sources, such as exact times of mobile calls (source: KPN), times of personal alarm system alerts (pagers) and times registered by the fire alarm system. These checks confirm the corrections as ascertained by the NFI.

7. Time-line analysis

A time-line depicts in two-dimensional form what happened around the time of the incident and exactly when. The x-axis represents the time (when did events take place?). The y-axis represents the actors (which person, organization, object did the event involve?). Once the events per actor in time have been presented, the relationships between the actors and the events can be marked. The aim of the time-line is twofold: (1) the overview helps to reconstruct the incident, and (2) the overview enables simpler themes to be identified and critical questions to be formulated.
Different sources of information – those previously described - have been used to create the time-line for the fire at Schiphol.
The events that have been derived from the different sources of information were initially processed into an Excel spreadsheet. The following information was entered for each event:

a) Event ID (name of person responsible for entering data and sequential number)
b) Date on which the event was entered
c) Date on which the event took place
d) Time of the event, if known
e) Sequential number of the event: if the exact time of the event is not known, for example, from the police statements where witnesses are able to list the events in time sequence, a sequential number will be allocated. The sequential number consists of two parts: the first is the name of the documents (e.g. Jansen PV – police statement by Jansen); the second is the number of the event, for example, 1. Jansen-1 is therefore the first event described by Jansen in his police statement.
f) Source of time: from which source has the exact time of the event been obtained (camera images, police statement, transcript, fire alarm system, etc.)?
g) Duration of event (how long did the event last?)
h) Source of duration of event (from which source has the information on duration of event been obtained?)
i) Event (a description/summary of the event)
j) Actor (who or what does the event involve?)
k) Location (where did the event take place?)
l) Reference number (what is the number of the document?)
m) Objective versus subjective (does it relate to objective or subjective information?) (see explanation above)
n) Indirect versus direct: has the information been collected and/or investigated by the Safety Board itself or has it been obtained via a third party? A police statement, for example, is generated via the criminal investigations procedure (=indirect), as opposed to a report of an interview taken by a member of staff at the Safety Board (= direct).

Relevant events recorded in the Excel spreadsheet have been entered into the 'Visio' programme. This enables a two-dimensional representation of events in graph form.

8. Sub investigations

The Safety Board's investigation was divided into four sub investigations.
Investigation into the cause of the fire and its subsequent development
This sub investigation focussed on the development and testing of hypotheses with respect to the cause of the fire and its spreading.

Activities included:

- fire investigation in situ to establish where the fire started and how it spread through the building,
- analysis of documents (technical drawings, diagram of ventilation system, functioning of smoke and heat discharge system),
- description of the building and facilities relating to fire safety, carrying out interviews to find out what those involved saw and heard with respect to the origin of the fire and its subsequent development,
- evaluation of footage from surveillance cameras and other images and the establishment of a time-line analysis.

In addition, two types of fire tests were carried out. Firstly, tests carried were out on constructions and materials (bed, bedding, windows, doors, walls and ceilings) to ascertain how they behaved in the event of a fire. Secondly, container testing was carried out. This kind of testing imitates the development of the fire and measures the generation of combustion heat, waste gas and carbon monoxide inside and outside the cell. The effect of opening a door on the spread of the fire was also analyzed.
All fire tests took place under the auspices of the University of Gent and were carried out by Warrington Fire of Gent. Biesboer Expertise BV provided additional recommendations. Siemens Nederland installed the fire alarms in the containers and during testing, data from these alarms were recorded and then made available to the Safety Board.
On the basis of this specific investigation, it was possible to establish how the fire spread through the building. The circumstances leading to the fact that the fire took such an extensive hold in such a short time, resulting in the number of victims, were identified. A clear picture of how the fire developed was gained with a satisfactory degree of certainty. Less certainty, however, emerged about the exact timing of events.
Investigation into fire fighting, rescue and evacuation
This sub investigation made a description and analysis of the actions of the staff at the detention centre and the actions of the fire brigade.

The work involved analyzing camera footage and other images, analysis of audio recordings, conducting interviews with those involved and performing a time-line analysis.
Two investigations were contracted out. These involved the analysis of the actions of staff by TNO Defensie en Veiligheid[10] in Soesterberg. The most important question that was answered in this study was: what factors were responsible for staff not locking the door of the cell that was on fire?'
Furthermore, an analysis of the actions of the fire brigade was commissioned by the Safety Board and carried out by the Netherlands Institute for Fire Services and Disaster Management[11] (Nibra) in Arnhem on the basis of an analytical framework.

Investigation into responsibilities with respect to the building and usage of K and J Wing
This sub investigation focussed on the background with respect to the complex (K and J Wing) and its use and ascertained the regulatory framework. In addition, a picture was formed of the responsibilities of those involved.
The work involved studying the statutory regulations in relation to the responsibilities of the parties involved, studying construction legislation, studying the permit documents (including drawings) and other relevant documentation, and inspection of the condition and use of

10 *TNO*: Dutch organization for applied scientific research – defence and security section
11 *Nibra* - Netherlands Institute for Fire Services and Disaster Management

the building; verification of requirements re the building regulations (Buildings Decree and municipality building by-laws) of the complex and its use; an evaluation of the applied equivalence and interviews conducted with various parties involved in the construction and use of the complex.
As part of this investigation, interviews were conducted and working visits made to the detention centre. In addition, use was made of information and documentation provided by the various parties involved.
Likewise, as part of this investigation, TNO Built Environment and Geosciences in Delft were commissioned to look into the following: (i) Linkage of the facts of the fire safety requirements; (ii) Investigation of the building permit; (iii) Investigation of the occupancy permit; (iv) Enforcement of the building and occupancy permits and (v) Definition of the legal framework.

Investigation into relief and aftercare
This sub investigation looked into establishing and analyzing the planned and actual relief and aftercare of detainees, guards, emergency workers and relatives.
Work carried out involved conducting interviews with all cell occupants in J and K Wing who received relief and counselling[12], interviews with a number of occupants of D Wing (sampled), interviews with counsellors and those responsible for aftercare, performing a time-line analysis, analysis of documents and (visual) material, an evaluation, an appraisal of the medical files, a media analysis and a survey of the literature dealing with the impact on health after disasters and with specific respect to aliens held in custody. The analytical framework was submitted in a meeting to representatives of refugee organizations, professional counsellors and legal experts. Impact, a national expertise centre for psychosocial care after disasters, was also asked to provide advice.

9. Method of analysis

The analysis aimed to reconstruct the course of events and the direct and underlying causes of the incident. The Tripod method has been used to analyze the causes of human actions.
The Tripod incident analysis method was originally developed for use in the oil industry by the University of Leiden and the University of Manchester, in cooperation with Shell International Petroleum. The method aims to identify the presence of risk factors in an organization which might lead to unsafe working situations (Hudson, Reason, Wagenaar, Bentley, Primrose & Visser, 1994). This can prevent unsafe practices on the work floor which may otherwise lead to injuries or the loss of large amounts of money or time. The method can be applied both in a proactive and a reactive manner.
The underlying principles of Tripod with respect to the cause of accidents are:
1. Accidents are possible because safeguards fail or are not in place.
2. Accidents are the result of a concurrence of circumstances which makes them often seem unique and impossible beforehand. The combination of one or more unsafe actions together with the situational circumstances is the last in a chain of successive causes which together can lead to accidents.
3. The possible causes of these unsafe actions and situational circumstances can be expressed in errors latently present in specific working-situation factors, which are called the fundamental basic risk factors.

A large percentage of accidents are caused by human error (Wagenaar, Hudson & Reason, 1990). Tripod is based on the principle that human error never occurs in isolation, but is preceded by a succession of factors: the underlying causes of unsafe actions (Wagenaar & Van der Schrier, 1997; Wagenaar, 1986). Figure 1 gives a diagrammatic representation of the causal structure of factors which contribute to potential accidents (Wagenaar, Groeneweg & Hudson, 1994).

12 Unless these individuals could not be contacted by the Safety Board.

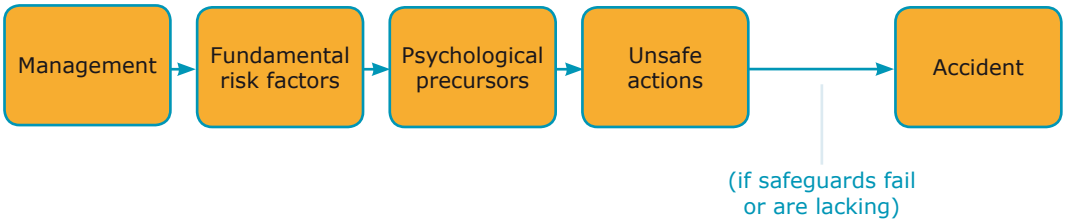

Figure 1: Diagrammatic representation of the causal structure of factors contributing to potential accidents (Wagenaar, Hudson & Reason, 1990).

Inadequate safety. Figure 1 shows how, according to Tripod, most accidents occur, such as the explosion of a fuel tank. If the figure is read from right to left it can be seen that if adequate safety measures had been in place, the accident could have been prevented. An example of a safeguard is the inherent impossibility of ignoring an alarm. In other words, an accident cannot happen if safeguards are adequate. Note that 'safeguards' refer to the sum of all safeguards put together.

Unsafe actions. An accident is the direct consequence of an unsafe action, such as 'ignoring an alarm that gives a warning that a tank is about to explode if no action is taken'.

Psychological precursors. The factor that immediately precedes an unsafe action is defined as the psychological precursor. An example of a psychological precursor is 'being in a hurry'. These are the direct cause of unsafe actions.

Fundamental risk factors. In turn, psychological precursors are caused by factors in the working environment, such as incompatible goals. Incompatible goals might be, for example, 'upping production whilst making cutbacks'. Such incompatible goals will increase pressure of work in the organization. Factors in the working environment are called fundamental risk factors because it is assumed that they play an important part in bringing about unsafe actions and accidents. The fundamental risk factors may be present in an organization to a greater or lesser extent. If, for example, there are no incompatible goals at play in an organization, this risk factor cannot exert any influence on pressure of work which may be perceived on the work floor.

The management. The part played by a fundamental risk factor in an accident resulting from unsafe actions on the work floor depends on an organization's management. The management exerts an influence on the status of fundamental risk factors and, in contrast to the employees on the work floor, they are in a position to do something about these. 'Management' is taken as being general here; for the detention centre this means the local management, but also the hierarchies above this. Insofar as the actions of other agencies are relevant (e.g. RGD, municipality), it concerns those there who hold overall responsibility.

The fundamental risk factors play a crucial role in Tripod. Minimizing unsafe actions by identifying the fundamental risk factors and changing these where necessary, is the most effective and practical manner of accident prevention. The risk factors below have been identified after research into the cause of industrial accidents carried out by the universities of Leiden and Manchester. The difference between the eleven risk factors lies in the type of intervention that each risk factor requires. The eleven fundamental risk factors are:

- Design: the design of the system, equipment and tools
- Hardware: the quality of the equipment and tools
- Procedures: the intelligibility, accuracy and availability of procedures
- Error enforcing conditions: work-related characteristics in the workplace not anticipated by the designers, such as temperature or noise, and psychological factors, such as machismo or boredom
- Maintenance: Day-to-day maintenance in the workplace
- Training: the competence or experience among employees
- Incompatible goals: the management of conflicts of interest such as working conditions versus production
- Communication: the communication between employees, departments and companies
- Organization: the structure of the organization where the work is carried out
- Housekeeping: managing and carrying out maintenance
- Safeguards: the presence and working of control measures and safety systems as part of the business philosophy.

While the Safeguards factor is indeed a basic risk factor, it does form a separate category. If safeguards are present and adequate, accidents will not happen.

10. Refutation

The Safety Board subjected each of the specific investigations to a critical test. This so-called refutation entailed an ad hoc committee of internal and external experts verifying the integrity of the results.

11. Interim report of the Safety Board, December 2005

After 9 December 2005, the investigation confirmed the findings of the interim report, although the Safety Board wishes to qualify this particular passage:

> *The containers contain double-glazed windows held in a PVC frame. On examination, this window construction showed insufficient resistance to heat. The rise in temperature brought about by the increased conflagration when the cell door was opened possibly caused this window construction to give way. In that case, the overpressure in the shell space was released into the corridor of K Wing via the burning cell. This might explain the sudden rush of air which swept large amounts of smoke through the corridor.*

In contrast to what was stated in the intermediate report, further examination has shown that the window construction could not have given way immediately in the first few minutes after the cell door was opened. After closer inspection, the change in the flow of air could be explained in full by the spread of fire after the cell door was opened.

12. Draft final report and comments by those involved

On the basis of the reports of the sub investigations, an overall final report was drafted. The draft final report (without consideration and recommendations), in accordance with the relevant provisions of the Kingdom Act, was submitted for comment with respect to actual accuracies or inaccuracies to the following persons/bodies:

- The Minister of Justice (likewise the Minister of Immigration and Integration)
- The Minister of Housing, Spatial Planning and the Environment
- The Minister of the Interior and Kingdom Relations
- The Minister of Defence
- The Minister of Social Affairs and Employment
- The Municipality of Haarlemmermeer
- Detention and Deportation Centre Schiphol-Oost
- The architect
- The contractor and several sub-contractors
- The suppliers and various fitters
- Amsterdam fire brigade and district regional fire brigade
- Schiphol Airport fire brigade
- Supervisory Committee for Detention Places, The Royal Military Constabulary (KMar), Schiphol
- GHOR[13] Amsterdam
- Utrecht Regional Safety Authority
- Ulrum Asylum Seekers Centre
- K.11 cell occupant (via his solicitor)
- Guards involved

A copy of the draft report was also presented to the Prime Minister.

The parties each received a copy of the draft report or those parts which were relevant to them. They were given a month in which to respond to the draft report in writing. The ministers involved

13 Medical Assistance in Accidents and Disasters

and the Detention Centre Schiphol-Oost issued a joint response to the draft report.
The Safety Board studied the responses carefully and, if necessary, requested the additional documents which were referred to by the parties in their responses. If the responses gave rise, the Safety Board processed these into the final report. Parties will receive a written explanation with respect to any responses not included in the final report.
A differentiation can be made between facts which, in the opinion of the party involved, were deemed incorrectly presented in the report of the investigation, and conclusions made by the Safety Board with respect to which the party concerned differed. Insofar as the Board holds a view that differs from that of an involved party, this has been explained in writing to the party concerned. On the basis of the responses and the new documents received following the inspection period, the Board has amended a number of facts and included the additional information in the report.
Below, in summarized form, are the responses to the facts which were not included in the report by the Board, because they differ from the results of the investigation. Reasons for this are outlined below. Agencies/individuals who neither responded to the draft report nor commented on the contents of the draft report or whose response has been included in full, have not been cited below.

Responses to the draft report by parties involved:

A. Joint response of ministers

- In reference to Section 3.2.2, the ministers gave the following joint response. The signal from the fire alarm system did not reach the staff office on the wings in question and the KMar central switchboard at the same time. In the KMar central switchboard codes (AA for J and BB for K) are present. The signal reached the KMar central switchboard, who reported the location of the fire directly to A Wing / Duty Officer. He was situated close to where the alarm was activated and could check the situation promptly. It is possible that in the draft report the fire alarm system was confused with the cell call system. The cell calls have codes in the 5000 series, but the fire alarm system does not.
  The Safety Board's response: The NFI's technical examination showed that the signal is also registered on the wing itself. There is no question of the fire alarm system and the cell call system being mixed up. The Safety Board bases this fact on the information provided by the NFI and the suppliers.

- In reference to Section 3.2.2 the following observation was made. The light above the cell does not have any warning function. The signal is transmitted directly to the DJI's switchboard activating a two-way communication system (intercom). The light is not visible from the staff office on the relevant wing.
  The Safety Board's response: The light in question visibly went on at 23:56:14 hrs. It is not the light for the fire alarm. Furthermore, activation of the warning light was registered in the logging system.

- In reference to Section 3.2.2, the following observation was made. The Integrated Emergency Control Room System (GMS) did appear to show that the KMar central switchboard reported the fire to the KMar emergency control room, but it did not state explicitly the need to call the fire brigade. This wasn't actually necessary, since the fire brigade had been alerted via the emergency centre Schiphol at the same time. The Kennemerland police force was called by the KMar emergency control room requesting assistance. The GMS print-out is available.
  The Safety Board's response: This has not been included since the said request is on an audio tape.

- From the response of ministers to the draft report in reference to Section 6.2.4, it would appear that the site director adhered to the internal guidelines of the DJI with respect to non-availability of certified users of breathing apparatus. On the recommendations of several fire officers, the DJI decided not to introduce breathing apparatus. This is now being reviewed by the DJI.
  The Safety Board's response: The ministers actually provide an explanation for the non-availability of trained users of breathing apparatus. The Board's message

was purely indicative: by making this decision, they were making themselves dependent on the fire brigade. If a conscious decision was taken, as the Board infers from the interviews and from this response, then the consequences of this had not been looked into.

- In reference to Section 6.5.3, the response of the ministers specifies that following detection of a fault, repairs had been carried out on the smoke and heat exhaust ventilation system in K Wing on 16 December 2003. This smoke and heat exhaust ventilation system is a permanent fixture of the building and therefore falls under the responsibility of the owner.
  The Safety Board's response: Independently of this repair, according to building regulations, regular maintenance needs to be carried out once a year. No documents with respect to this were received during the investigation. The response has not resulted in any changes being made.

- Section 6.5.6 mentions that the cells did not offer any sustained protection to their occupants. The response to this was that, if this was the case, the cells in the block where the door of the burning cell was not closed, did not offer any sustained protection to their occupants.
  The Safety Board's response: In the analysis given in Section 6.5.6, the issue is that a fire was burning outside the cell and the protection offered by cell at that point, regardless of where the fire started. Of course, not closing the door bore some influence, but that is not relevant to the point in question.

- In reference to Section 6.6, the observation was made that the open door had a major influence on the spread of the smoke along the other routes, not just the route along the corridor.
  The Safety Board's response: This is not relevant in the context to which the observation is made.

- In reference to Section 6.7.2, ministers noted that the Fire Brigade was aware of the time delay. In their view, this is apparent from the Emergency Plan Detention Centre Schiphol-Oost in-house emergency and first-aid service, signed and stamped by the Fire Department on 7 November 2003, mentioning the time delay, which was sent to the RGD at the same time as the occupancy permit. The RGD received these documents from the fire brigade on 10 November 2003 (going by the date stamp) and, on the basis of this, had the alarm system altered with regard to the time delays indicated in the approved plan.
  The Safety Board's response: During the investigation, no single document indicated that the fire brigade was or should have been aware of the time delay. In the said emergency plan, the time delay is not mentioned. This is only mentioned in an appendix of the operational plan (a document that appeared after the emergency plan and prior to the disaster plan) and did not form part of the occupancy permit. This is specifically something that the user should have brought to the attention of the municipality. Likewise, as a result one of the requirements of the building permit was not met.

- With respect to Section 6.7.2, the ministers made the observation that the Site Director did indeed take additional measures. For example, on the night in question, the number of staff was substantially higher than is normal for a closed penitentiary institution (normally 1 to every 50 detainees, at Schiphol-Oost during the fire this was 17 to a maximum of 412 and in fact detainees numbered 298). Likewise, the rule applied that everyone should have followed an in-house emergency and first-aid course and a dry sprinkler system had been put in the building.
  The Safety Board's response: The delay in reporting the alarm to the emergency centre and the resultant delay in the arrival of the fire brigade was not offset by the number of staff in attendance and a dry sprinkler system. After all, the fire brigade can operate in situations that normal staff cannot (with breathing apparatus in smoke) and the dry sprinkler system can only be connected by the fire brigade once it has arrived. What's more, the dry sprinkler had been fitted above the cells (in a void) and could hardly have had any effect on restricting the fire.

- In reference to Section 6.7.3, in a joint response, the ministers pointed out that there is no statutory framework for response times of (...). The norm is based on statistical calculations, based on 80% of objects within a service area being reached within a time limit of 0 to 8 minutes. Twenty percent of objects will therefore have a response time of 8 minutes or more. In this case however, there is no question of a prolonged response time or the norm being exceeded.

  The Safety Board's response: The report points out that the legal norm is not at issue, but the instructions of the Ministry of Interior and Kingdom Relations (part of so-called unofficial regulations), with respect to which the Minister of Interior and Kingdom Relations wrote to the House of Representatives that this "is not without obligation". In relation to this "non-obligatory norm", there was indeed a delay on the part of the fire brigade.

- With respect to Section 6.7.4, the ministers pointed out that the municipality and the fire brigade were both aware of the speed gate (entrance to the complex). The fire brigade had been informed about this new entrance during a meeting on fire safety issues with respect to J and K Wing held on 11 November 2003. After this was introduced the fire brigade had visited the complex on at least three separate occasions (21-06-2005, 4-07-2005, 28-07-2005).

  The Safety Board's response: The fire brigade was indeed aware of the new fence (on the accessibility map), but not with respect to closing the old fence. The latter information was not passed on to the fire brigade, at least no mention of this was made during the investigation. The Board's view is that visits by members of the fire brigade to the Detention Centre are not relevant in this context. The fire brigade should have been informed in writing about the decommissioning of the old fence. The dates of the fire brigade visits represent new information which was not available at the time of the investigation despite questions on the matter. It is not clear which unit was involved.

- In reference to Section 6.7.7 the following observation was made. The Fire Brigade Guidelines specify that for the water transportation system: "NB: the wts200-system has no flexibility with regard to water transportation distance. If doubtful whether the wts200 can cope, make a definite choice for the wts1000 or wts2500"

  The Safety Board's response: This addition was not included in the report. The flexibility specified by the Guidelines relates to a length restriction for an insufficient number of hoses (source NIBRA[14]). If hoses could have been borrowed from other vehicles, this length restriction was about 400 metres, in this case sufficient.

- In reference to Section 7.5.1, the observation was made that the Municipality was in possession of a detailed construction plan, which it was able to test out in full.

  The Safety Board's response: The drawings did not clearly mark the course/ presence of smoke compartmentalization, fire compartmentalization and the fire sub-compartmentalization. In addition, the status of the escape routes was not given (smoke-free or fire and smoke-free). It is essential to know what kind of escape route runs through a particular space because:
  1. the resistance to fire movement (WBDBO) requirements between these and other spaces depend on this;
  2. the requirements of the material behaviour in the event of fire depend on this;
  3. this determines how large the overall usage surface of the smoke compartment along the escape route should be indicated (is one escape route enough or are at least two required?).

- In reference to the fire compartment size of 500 m2 being exceeded as specified in Section 7.5.2, the ministers referred to the equivalence article. Equivalence must be achieved through:
  - fitting a dry sprinkler system in the void above the cells;
  - immediate availability of all staff, because they can be paged via the Personal alarm and location system;
  - the KMar central switchboard staffed 24 hours per day with 2 persons (for the alarm system, actions take place directly in the detention centre).

The Safety Board's response: Nowhere in the file on the construction permit does it state that equivalence of the compartment size is attained by meeting specific constructional requirements, such as on the basis of provisions in the Planning Application (Submission Requirements) Decree (Biab). Justification for equivalence was not submitted by the applicant with the building application. Likewise, the building permit did not appear to show that this had been granted with the equivalence article having been applied. Finally, there is no justification for equivalence. As far as equivalence is concerned, application should have been given to Art. 1.5 in the context of Art. 2 of the Housing Act. As such, it must concern architectural amenities and these must lead to a situation which attains the objective of the provisions, with respect to safety, health, functionality, energy saving and durability, to the same extent as with the performance requirements. Two of the three aspects specified are not architectural in nature. The dry sprinkler system does not lead to an equivalent situation, in view of the fact that the presence of the fire brigade is required for this.

- In reference to Section 7.5.2, ministers pointed out that the assumption was that the door at the far end of the wing served as an emergency exit and the walking distance exceeded by just 2.5 metres the required distance of 22.5 metres for which a smoke and heat exhaust ventilation system had been fitted as an equivalent solution.

  The Safety Board's response: The intention of the legislature is set down in Art. 7.2.7 of the Bulletin of Acts and Decrees 1998, 618 in connection with Art. 188, par. 2, of that same Bulletin of Acts and Decrees (section K). What the legislature envisaged was a standard methodology to give substance to the principle on which the Buildings Decree was based of "free arrangeability" (for a "non-arranged residential zone" the walking distance is 1.5 times stricter than for an "arranged residential zone" (this latter is defined as the walking distance from a point of departure in a residential space) regardless of the function of the building (referred to as occupancy function after the Buildings Decree of 2003). For a detention centre, it was decided to halve the walking distance in view of the exceptional circumstances of detained persons, from 45m to 22.5m. For a detention centre the rule was that, with the omission of the non-load bearing components in a residential zone, the distance measured did not have to count to its full extent, but must be divided by 1.5 before comparing the result with the performance requirement. On the basis of recommendations of TNO, the Board believes that in the response to this section, the 2003 Buildings Decree has not been correctly interpreted.

  This likewise applies for the response in respect of an escape route leading from a cell block to a sealed-off area situated outside the building. The Board does not see any need to amend the report, partly bearing in mind the history of the building regulations and the content of the Police Detention Centre Regulations. All penitentiary institutions must have a sealed-off outside area (see Art. 3 of the Police Detention Centre Regulations). Following deregulation of the Buildings Decree and its transformation to the 2003 Buildings Decree on 01.01.2003, the latter does indeed no longer recognise this requirement, but as a result Art. 5 of the Housing Act is no longer formally satisfied, which does contain this requirement (see also Bulletin of Acts and Decrees 1998, 618 which contains this provision, Art. 7.2.22). The 2003 Buildings Decree does not consider the exit to the area outside as an exit to a smoke-free escape route. The Board does not share this claim to equivalence and has not included it in the report.

- In response to the summarized conclusion 9, the ministries pointed out that, after the fire had broken out, a control team was set up at the headquarters of the DJI, for the purposes of relief and aftercare, which took over direction, and would have resulted in the evacuation, the provision of medical assistance, registration of survivors, etc. being able to be carried out within a short period of time.

  The Safety Board's response: During the investigation, the Safety Board did not discover any single mention, either during interviews or in documents, of a control team at the DJI which had responsibility for the aforementioned tasks. Following this response by ministers, the Safety Board spoke with individuals who made up this control team. After these talks, the Board concludes that the central direction of the team, vis-à-vis the detention centre, was extremely limited and that the

team was primarily occupied with registering the care received. A remark about this has been included in Section 8.5.4. This does not therefore give rise for the Board to review this.

- In their response to conclusion 9, the ministers pointed out that 19 of the 298 cell occupants were transferred a second time.

  The Safety Board's response: In their response, the ministries have not included the transfer of cell occupants to asylum seekers residence centres. The Safety Board has included these transfers to the asylum seekers residence centres, because for those involved this meant an additional change in their surroundings and their counsellors. If the transfer of occupants from J and K Wing to the asylum seekers residence centres is not taken into account, then 19 individuals were transferred a second time. In the final report, the Safety Board has made clear what is meant by transfers.
  In addition, the Safety Board decided not to specify exact numbers in the report. Files which were made available to the Board by the Temporary Special Facilities Directorate (TDBV) in March were re-requested in August 2006 following the joint response of ministers to the draft report. In the files that were received in August 2006, the altered statistics and data had been added. For this reason, these files no longer corresponded in all aspects to files made available to the Safety Board in March, on which the draft report was based. The Safety Board carried out no further investigation into finding out which statistics and data were the correct ones.

- In response to the summarized conclusion 8, the ministers pointed out that all detainees were seen by a member of the nursing staff on arrival at detention centres in Zeist and Rotterdam.

  The Safety Board's response: The Board has not included this observation. For the purposes of the investigation, the Board has used the data registered as the starting point. In data provided by the Temporary Special Facilities Directorate (TDBV) as well as medical files provided by GPs[15] (HIS), registration of medical assistance was not found for all cell occupants on the first day after the fire. All treatment given to the individuals involved is required to be recorded in the medical files.

- In Section 8.5.2, the Board states that only very limited attention was given to possible health problems in the night of the fire at the Detention Centre Schiphol-Oost. The ministries refute this by stating that, on arrival of the head of medical services, there was immediate contact with the Medical Officer in Charge and the specialized nurse with respect to the physical condition of the detainees. Anyone requiring urgent care was treated by the ambulance services. After consultation between both services, it was agreed that the nursing staff of the medical services at Schiphol-Oost would take on responsibility for the care of the detainees and that the ambulances could be called upon immediately if this was necessary. Three members of the nursing staff (head of the medical services, specialized nurses and a general nurse) attended and spoke to the detainees, held talks with the guards (supervisor of aliens) and took action where necessary. It turned out that the ambulance services were not needed.

  The Safety Board's response: This observation has not been included. Independently of the fact that the Board has not made any investigation into the performance of the medical assistance services, the Board has established that no physical check of J and K Wing occupants took place up until the moment that cell occupants were provided with transport for transfer to the other detention centres. The "all persons" referred to in the response are the guards, the occupant of cell 11 and a cell occupant from a wing other than J or K. The Safety Board is unsure why occupants of J and K Wing did not receive any special attention (they were after all the ones exposed to the smoke) and why they were not medically checked in the exercise yard outside H Wing. Nevertheless, there were nursing staff on hand in the exercise yard to keep an eye on detainees.

15 *HIS* - Information System for GPs

- In response to Section 8.5.10, the ministers pointed out that the identity of everyone should have been known and in which cell they were at Zeist, because the names of cell occupants were recorded against the cell numbers they occupied. These lists were available at 8 a.m. on 27 October.

  The Safety Board's response: Observation not included. According to the management at Zeist detention centre, it was not clear at first who everyone was. The management pointed out that the information arrived two days after the fire and that the data was complete on the Tuesday following the fire. The cell lists were not mentioned in the interviews.

- In their response to Section 8.5.10 – referring to cell occupants in an isolation cell – ministers pointed out that the identity of this detainee was unclear. Furthermore, transfer for medical observation took place on medical advice and that normally a visit to the cell would not be refused. The possibility of following advice is dependent on the situation and the circumstances in the institution.

  The Safety Board's response: The professional counsellor who attended the said detainee, indicated in the interview that access was not made to the cell occupant and that the occupant did not receive any medication at that point. The Safety Board has no reason to doubt this explanation and does not see any reason to change the relevant text in the report.

- In their response to Sections 8.5.13 and 8.5.19 with respect to the use of interpreters and problems indicated during the period of assistance, the ministers point out that language problems hindered the provision of help. In addition, it was reported that, according to the normal procedures, the services of an interpreter would have been called upon if a detainee indicated a need for this. If an interpreter was not available at a particular time, the conversation was put back to a later time when the interpreter was available.

  The Safety Board's response: The Board has not included this observation. In the medical files notes were made on several occasions that contact with the emergency staff did not go smoothly or had to be stopped because no interpreter was available.

- In response to Section 8.5.14, which mentions that no individual care plans were drawn up for those cell occupants with an increased risk of developing problems, the ministers pointed out that a letter from the institutional psychologist to the management of the deportation centre in Rotterdam indicated that individuals with special problems were monitored and dealt with individually in a systematic way and in regular care meetings.

  The Safety Board's response: The Board has not included this observation. The Safety Board has a copy of said letter. The letter does not contain any list of appointments or individual care plans. Reference is however made to regular care meetings. From the medical files, the Safety Board had concluded that appointments with the psychologist had been requested several weeks after the fire, mostly by means of a request slip.

- In response to the table of follow-up contacts in Rotterdam in appendix 16, the ministers indicated that the GP announced on 14 November 2005, that he had seen most of the detainees on two occasions. Several detainees had not been seen, because they had refused this. This has not been included in the table, as a result of which the table no longer gives the full picture. On 14 November it was also decided that the doctor and the psychologist would visit all the cell occupants from Schiphol-Oost again. On 21 November, the psychologist stated that he had seen all detainees.

  The Safety Board's response: In their response, the ministers make reference to a report of an evaluation meeting dated 14 November. After more detailed telephone contact, it appeared that this concerned documentation which was already in possession of the Safety Board. The data in the report are based on data provided by the Temporary Special Facilities Directorate (TDBV). However, the Safety Board has not found a record of the follow-up appointment with the doctor/psychologist in the medical records (HIS) for all detainees. All appointments for those involved are required to be recorded in the medical files. The Board does not see any reason therefore to change this point in the report.

- In their response to Section 8.5.19 the ministers pointed out that plans for aftercare in the second phase had been drawn up by the Mental Health Services (GGZ) in Groningen and Winschoten.

  The Safety Board's response: According to the Central Agency for the Reception of Asylum Seekers
  (COA) in Ulrum, in the first instance, a plan of action was drawn up for aftercare of cell occupants from Schiphol-Oost as described in Section 8.5.17. Because the duration of residency of cell occupants was uncertain, this plan was not implemented. The Safety Board does not hold a copy of the aforementioned plans and, although these have been requested, it has not received these yet.

- In Appendix 16, the Safety Board outlines the quality of the emergency/support services as they were provided on the basis of three case studies. The ministers, in response to this, point out that the Safety Board has outlined the quality of the support services only in three selective case studies from a total of 248 transferred persons, so that no representative picture can be formed of this.

  The Safety Board's response: It was the Board's wish to outline in general the quality of the support services. This has been done on the basis of the three aforementioned case studies of transferred individuals, as apparent from the forty medical files which the Board has in his possession. The conclusion of the Board that the care was too late or not provided for at all in a number of cases, is not based on these three case studies alone. The response does not provide any reason to review its conclusion.

B. Municipality of Haarlemmermeer

- In response to Section 3.3.3, the Municipality of Haarlemmermeer pointed out that the response time of the fire brigade should not have been 11 minutes, but 7.57 minutes. This time is based on data from the 'Topsis' system.

  The Safety Board's response: In establishing response time, the Board used the information sources (camera images and transcripts) in which the actual alarm and actual arrival is recorded. These times have been calibrated. The reason why the Municipality arrives at a different time is based on a misunderstanding. The Municipality deducted 3 minutes by mistake from the response time they used themselves. The 3 minute adjustment made by the Municipality applies only to the time the alarm signal came in. This is because there is a three minute time difference on the clock of the fire alarm system. The times of other events as recorded in the Topsis system, relate to the times as received and entered by the switchboard operators, and are not linked to the fire alarm system.

- In reference to Section 6.5.4, the Municipality pointed out a comment about the fuel load. The regulations however do not contain any provisions with respect to the maximum permissible fuel load.

  The Safety Board's response: The observation has not been included in the report. This section only outlines the effect of the amount of flammable material.

- In its response to Section 7.5.2, the Municipality pointed out that the requirement that the maximum size for a fire compartment of 500 m2 or smaller does not apply for buildings with a cell function. 1000 m2 was permissible according to the Municipality.

  The Safety Board's response: Art. 2.105 of the Buildings Decree is regulated by 2.109 and accordingly applies. If another article (2.116) is referred to in Art. 2.105, in the context of Art. 2.105, the other article (2.116) applies, even though Art. 2.116 does not apply in the context of (its own) section 2.14. The Board recognizes that this is all quite complicated, but in other words: the 500m2 requirement applies for non-permanent constructions.

- The Municipality of Haarlemmermeer, in response to Section 7.6.1, points out that the building permit is tied in with a strict framework for grounds for refusal and, for the rest, is an acquired right. If the statutory regulations are met, there are no grounds for refusal and the Municipality is obliged to issue a building permit.

The Safety Board's response: Partly based on an investigation by TNO, the Board suggests that this concerns a building that does not meet the requirements of the 2003 Buildings Decree. Partly on the basis of Art. 40 and Art. 44 of the Housing Act, grounds for refusal for not granting the building permit are therefore present.

- The Municipality of Haarlemmermeer, in its response to Section 7.5.2, suggests that the Board is using the wrong requirements with respect to the resistance to fire movement (30 minutes against 20 minutes).

  The Safety Board's response: Art. 2.109 of the 2003 Buildings Decree states that in applying Art. 2.104 and Art. 2.105 for the resistance to fire movement requirements (WBDBO) must be taken to be 30 minutes. For the WBDBO requirements between fire compartments according to Art. 1.13 in conjunction with Art. 2.109 of the 2003 Buildings Decree, it is not Art. 2.106 in conjunction with Art. 2.109 that applies, but Art. 2.113; this specifies a WBDBO requirement of 20 minutes. According to the 2003 Buildings Decree, the 20 minutes requirement in Art. 2.113 applies for WBDBO requirements between fire compartments. 30 minutes applies for fire movement aspects specified in Art. 2.104 and Art. 2.105.

- With respect to Section 7.5.2, the Municipality of Haarlemmermeer pointed out that use has been made of the equivalence article in respect of the number of exits per wing. In the view of the Municipality, this was the case, as long as the exits at the far end of the wings could be used as emergency exits.

  The Safety Board's response: If the fencing around the perimeter of the penitentiary institution was consciously chosen as an equivalent solution for non-fulfilment of the performance requirement (Art 2.161-3), this should have been included in the building permit. All penitentiary institutions must have a sealed-off outside area (see Art. 3 of the Police Detention Centre Regulations). In the Bulletin of Acts and Decrees 1998, 618 (Buildings Decree phase 3), the requirement of the outside area was therefore added to complement Art. 5 of the Housing Act. Nevertheless, access to the outside area was not designated in the Bulletin as the start of the smoke-free escape route. That was evidently a conscious decision, because the outside area cannot be designated as safe in general and safe for evacuation purposes, as referred to in the 2003 Buildings Decree. For the same reason, the 2003 Buildings Decree has not designated the exit to this outside area as an exit to a smoke-free escape route.

The claim for equivalence is therefore not correct in the view of the Board.

C. Architect

- In response to Section 7.5.3, the architect points out that the size of the fire compartment does not have any influence on evacuation safety.

  The Safety Board's response: The Buildings Decree specifies the following: "Fire compartmentalization is intended to limit the spread of a fire to part of a building. This enables occupants of the building not situated in the part with the fire to evacuate the building safely." Likewise, Art. 7.2.5 of the Bulletin of Acts and Decrees 1998, 618: "The requirement for fire compartmentalization of a cell block, embodied in the first paragraph, renders a situation in which only a limited number of cells need to be evacuated in the event of fire." This implies that not only the manageability of the fire plays a role, but also restricting the number of people who become involved in a fire.

- In response to Section 7.5.2, the architect draws attention to the fact that he followed the regulations to the book, in view of the fact that the smoke transferred via the outside area.

  The Safety Board's response: What is important here is that the window constructions are not the same on both sides. On one side of the complex the windows are designed with glass in the outer skin of the wall. The architect's assertion that the route via the void also went via the outside area is not correct. The regulations have not been followed with respect to this side of the wall. Where window constructions were not designed in glass in the outer skin tests should have

been carried out to check whether the performance requirements or the functional requirements that indicate the fundamental purpose had been complied with. If a check is made of the functional requirements, all fire development possibilities must be considered. This also applies to smoke development. The development of fire via the cavity wall, whether or not several centimetres via the outside area, is also part of this. Verification of the performance requirements, on the basis of NEN[16] 6068, is not possible because this method can only be used for the radiation receptive opening on (almost) vertical planes; the opening at the bottom of the cavity is on a horizontal plane.

- The architect points out that, in respect of the walking distance being exceeded (see Section 7.5.2), an equivalence principle had been applied for which is explicitly specified in the building permit and was approved in the permit.
  The Safety Board's response: In neither the building permit nor the application for the building permit is this claim for the equivalence principle specifically referred to. Art. 2.6.11 in the building permit only specifies that drawings, calculations and additional data from the Smoke and Heat Exhaust ventilation system, after inspection by TNO, should be submitted in duplicate to the Prevention department.

- In his response, the architect also refers to the equivalence article with respect to the emergency door and the perimeter fence (see Section 7.5.2).
  The Safety Board's response: If the perimeter fence had been deliberately chosen as an equivalent solution for not meeting the performance requirement (Art. 2.161-3), this should have been included in the building permit. All penitentiary institutions must have a sealed-off outside area (see Art. 3 of the Police Detention Centre Regulations). The 2003 Buildings Decree did not designate the outside area as an exit to a smoke-free escape route. The claim to equivalence is therefore not correct.

D. Guards

- In a response, one of the guards pointed out that in Section 3.2 it is mentioned that the guards only saw flames coming out of the door opening after some time. It is the opinion of the guard that they explained that this was the case immediately after the door was opened.
  The Safety Board's response: The Board is familiar with the statements of the guards on this matter. A surveillance camera in the position to the left at the rear of the corridor, close to cell 11, registered the burst of flames. As a result the Board was able to determine the exact time of the first burst of fames.

- In a response to Section 3.2.5, the point was made: 'The first telephone call to be taken was from the Duty Officer, but that call caused confusion with the emergency control room.' The response states that this telephone call was made to verify whether the fire alarm signal had indeed been received by the emergency control room.
  The Safety Board's response: The passage of text in question is based on the statements of the switchboard operator and audio tapes.

- One response points out that it was the Duty Officer who told the fire brigade to go to the other entrance (see Section 3.3.3).
  The Safety Board's response: On the basis of the transcripts and video images, we can establish that this was not the case. It is possible, even probable that the Duty Officer has referred fire brigade units arriving later.

- According to one guard, signs with names and accompanying photographs were attached to the cell doors (Section 6.6.4).
  The Safety Board's response: On the basis of an interview with someone from management, photographs taken of the cell doors and observations made by the investigators, this can be said not to be the case.

13. Internal organization of the Safety Board

The investigation was carried out by a project team under the coordination of a project manager. The team consisted of five sub-project managers and four sub-project teams; in addition, there were team members responsible for reporting, planning, finance and overall support. During the period of the investigation, ten investigators were employed on a full-time basis and six investigators on a part-time basis; another six investigators assisted the team in the first six months in taking interviews. In addition to these internal investigators, the services of twelve external investigators were also called upon.

The project manager reported to the Board. For the purposes of this investigation, the Board discussed the ongoing investigation in seventeen meetings between 7 November and 28 June to determine the course of the investigation and the draft reports. After receiving all comments, the Board spent several meetings looking at the responses to the draft report and the formulation of the final report.

A guidance committee was also set up for the purposes of the investigation, consisting of two Board members, an associate board member and three additional experts. The committee met on six occasions.

APPENDIX 2 THE DEATH OF THE VICTIMS OF THE PRISON FIRE AT SCHIPHOL-OOST

1. Introduction: Carbon monoxide and the human body

Carbon monoxide (CO) is an important component of combustion gasses. It is produced during every fire as a result of incomplete combustion of wood and other fuels containing hydrocarbons. Carbon monoxide is extremely poisonous. Studies have shown that approximately 80% of all of the fatalities from fires die as a result of carbon monoxide poisoning (NFPA, 2005).

The inhalation of carbon monoxide leads to a disruption in the levels of oxygen in the human body. Carbon monoxide combines with the haemoglobin present in the blood; this is the protein that ensures the transport and release of oxygen to tissues. Haemoglobin that is tied up with carbon monoxide (carboxyhemoglobin, COHb) is no longer capable of absorbing oxygen and can therefore no longer fulfil the transport function. As a result, an excessively high concentration of COHb in the blood leads to a deficiency of oxygen in the tissues. In addition, haemoglobin combines more easily with carbon monoxide than it does with oxygen. This is why it is possible for a relatively low CO content in the respiratory air to lead to a life-threatening concentration of COHb in the blood.

COHb forms such a stable compound in the human body that it may still be measured in the victim's body even hours after death. The concentration of carboxyhemoglobine in the blood is usually expressed as a percentage of the total haemoglobin content (COHb%). In general, any carboxyhemoglobin saturation higher than 50% is considered to be fatal. However, COHb concentrations higher and lower than this have been found in the bodies of victims. A low COHb% generally indicates that one or more factors other than carbon monoxide (also) played a role in the death of the victim. This could include the presence of other toxic combustion gas components such as hydrocyanic acid or formaldehyde, a reduced oxygen concentration in the respiratory air as a result of the fire, or an injury due to radiant heat or direct contact with the fire (Nelson, 1998; Terill et al., 1978). High COHb% values indicate carbon monoxide poisoning as the single cause of death (Ferrari et al., 2001). The percentage measured represents the victim's COHb% at the time breathing stagnated. If the victim is able to breathe fresh air, or better still, is administered oxygen, then a gradual drop in the COHb% will commence. This means that up until the actual time of death, recovery of the victim may still be possible.

The toxicity of carbon monoxide is a product of the concentration and duration of exposure. A high COHb% value can therefore occur as a result of a brief exposure to a high concentration of CO, as well as through lengthy exposure to a lower CO concentration. However, in the literature, it is assumed that above-average COHb% values found in deceased victims are indicative of a relatively brief exposure to a high dose of CO. Besides, if the victim continues to inhale air with a relatively low CO concentration for quite some time after the lethal COHb% value has been exceeded, the CO saturation in the blood will reach an equilibrium with the level found in the respiratory air, such that there will only be a slight increase in the COHb% in the blood. In the other case, in which the victim inhales high concentrations of CO, the aforementioned equilibrium between [CO] respiratory air and [CO] blood will not be achieved as quickly, resulting in an increase in the victim's COHB%, even after the lethal level has been exceeded. In the case of a victim in which a high COHb% of 80 was found, for example, it may therefore be assumed that this person died as a result of the consequences of a fairly brief exposure to a relatively high concentration of carbon monoxide, a situation which can arise in a large, rapidly spreading fire (De Haan, 2002).

The relationship between CO in the respiratory air and the formation of COHb in the blood is, apart from personal characteristics such as age and physical condition, primarily determined by three factors, namely the concentration of CO in the air [CO], the intensity with which this air is inhaled, and the duration of this inhalation. Different researchers have tried to quantify this relationship. Most of their comparisons however, were only valid for low CO concentrations (< 1000 ppm) which are useful for studies into working conditions, effects of smoking or exposure to exhaust fumes (Baron et al. 1989; Nelson, 1993). In cases found of CO poisoning in situations involving a fire, the CO concentrations present are usually much higher, which would mean that these comparisons are no longer applicable. Reliable empirical data on the effects of high

CO concentrations on the human organism are scarce. An important exception involves the experiments conducted by Stewart et al (1973) in which a number of voluntary test subjects were administered high concentrations of carbon monoxide, up to 15,000 ppm[17] for 1 ½ minutes and even 35,600 ppm for ¾ minute (see table). This way, the authors could compare the increase of COHb% in the blood to the quantity of the inhaled oxygen/CO mixture. They arrived at the following comparison which allows the prediction of the increase of COHb% per litre of inhaled litre of oxygen/CO mixture:

$$\log(\text{increase in COHb\% / litre}) = 1{,}036 * \log[CO] - 4{,}4793$$

Test	Duration	[CO] (ppm)	Inhala-tion (litres)	Breath volume/min (l/min)	COHb%	Increase in COHb%/ litre*min
1	10 min.	1.000	76,30	7,63	3,2	0,042
2	10 min.	1.000	80,80	8,08	3,5	0,043
3	1 min.50 sec.	10.000	80,80	13,25	11,6	0,477
4	2 min.	15.000	24,30	7,89	10,2	0,646
5	1 min. 30 sec.	14.400	15,78	7,56	7,2	0,635
6	2 min.	15.300	11,34	6,91	8,9	0,644
7	1 min. 30 sec.	20.400	13,81	6,59	10,7	1,083
8	1 min. 30 sec.	20.500	9,88	6,30	9,5	1,005
9	1 min.	24.600	9,45	7,32	8,5	1,161
10	1 min.	24.200	7,32	4,59	7,4	1,612
11	1 min.	30.400	4,59	6,64	9,1	1,370
12	1 min.	30.000	7,54	7,54	9,8	1,300
13	45 sec.	35.600	9,58	12,77	15,2	1,587

Table 1: Increase in COHb% as a result of exposure to CO in the respiratory air.

In graphic terms, the relationship between the exposure to CO and the increase in COHb% may be expressed as follows:

17 ppm = parts per million. 1 ppm = 0.0001%

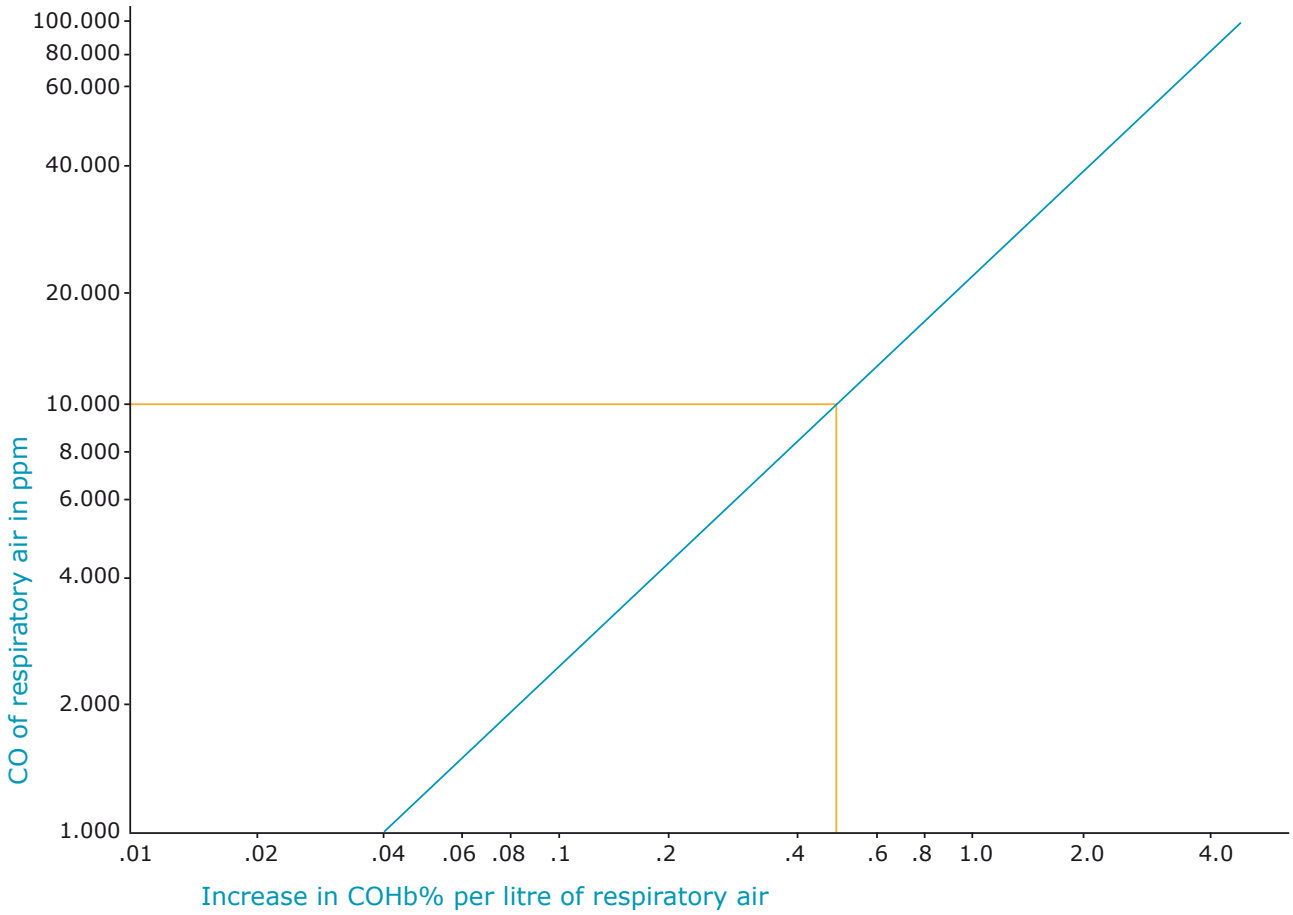

Figure 1: The relationship between the exposure to CO and the increase in COHb%

From the figure it may be concluded that inhaling one litre of oxygen with a [CO] content of 10,000 ppm, for example, results in an increase in the carboxyhemoglobin concentration (increase in COHb%) of 0.5. A person who finds themselves in this type of environment and maintains a calm rate of breathing of 8 l/min will develop a COHB% saturation of 40 within approximately 10 minutes which is more or less the level at which a person will lose consciousness (DeHaan, 2002).

2. The death of the victims on K Wing

The autopsy showed that the COHb saturation in the victims of the prison fire far exceeded the lethal value of 50% in all of the cases. The lowest COHb% was 59, the highest was 80, and the average was 71 (see Table 2). With regard to the average found in carbon monoxide victims from other fires (64; see Hirschler's data base, 1993), these values may also be considered to be high. Two conclusions may be drawn from this:

(1) All of the victims died as a result of carbon monoxide poisoning.
Explanation: the COHb% value measured post-mortem is representative of the COHb% value at the time the victim stopped breathing. If other factors play a significant role, such as intoxication as a result of other combustion gas components or hyperthermia, then it may be expected that at the time of death, the COHb% had not yet increased to a value far above the lethal value (Nelson, 1998). For example, victims of fires in which high concentrations of cyanide were found typically had low levels of COHb (< 50) (Ferrari et al., 2001).

(2) The CO concentration to which the victims were exposed was relatively high.
Explanation: The victim did not die immediately after the lethal level of COHb had been exceeded, but continued to breathe for some time afterwards in an unconscious state. The CO concentration in the air which is inhaled during this phase is determinative for the further increase of the COHb%. A high post-mortem COHb% therefore indicates a high [CO] in the respiratory air of the victim (DeHaan, 2002).

One question which arises involves the victims' time of death. This question is not an easy one to answer. The effect of carbon monoxide is a product of the duration of exposure and the concentration, such that we must determine the speed at which and the quantities of combustion gasses containing carbon monoxide which could have penetrated the unopened cells. The number of unknown variables involved in this process is simply too high to be able to arrive at exact results. For this reason, an attempt was made to arrive at an estimate of the period of time during which the victims most likely died, the mortality interval. This interval is delineated by a minimum time (the earliest possible time of death of the first victim) and a maximum time (the latest possible time of death of the last victim).

Victim in cell	COHb%
5	67
9	67
9	80
10	79
10	59
12	70
12	72
13	75
13	60
14	75
14	76

Table 2: COHb% concentration of the eleven victims of the fire, related to their cell numbers.

The estimate of the mortality interval is based on several assumptions, the accuracy of which cannot be demonstrated, however, it is supported insofar as is possible by the results from the fire tests. We will briefly review these assumptions:

Assumption: **the fire produced combustion gasses with a CO concentration on the order of 10,000 ppm[17].**

Explanation: The cell fire tests have shown that the smoke wave which the prison fire produced for several minutes during the flashover phase contained a peak [CO] of 20,000 ppm, with an average of 10,000 ppm. As the temperature rises, the CO production decreases again. It may be assumed that when the fire spread to the hall and the shell space, that similar CO concentrations were produced there as well. The most important source area for the carbon monoxide was not at the far end of K Wing, at which incidentally, briefly after the flames egress from cell 11, a ventilated ('fuel-driven') fire situation arose, but in the more central section of K Wing, where the spread of the fire stagnated since the entrance of fresh air was limited to the fire. The fire in this zone was more 'ventilation-driven', which implies that the combustion gasses contained less CO2 and more CO.

Assumption: **the fire reached the ceiling space above the cells 5 to 10 minutes after the flames egress from cell 11 (23.59 hours).**

Explanation: The Duty Officer who appeared at an early stage outside, near the far end of K Wing, saw the first ceiling panels fall down from the lowered ceiling at a certain point while the two guards were still working on opening the cell doors. This occurred no more than one and a half minutes after the flames egress from cell 11. Once the lowered ceiling had broken apart, the fire gained free access to the ceiling space (plenum) above the cells. It is thus plausible that the fire spread quickly in this direction.
A photograph which was taken at 00.16 hours by an amateur photographer shows that the fire spread across the entire length of K Wing (in other words, the entire ceiling space above the left row of cells). This occurred 17 minutes after the flames egress from cell 11.

Assumption: smoke penetrated the closed cells primarily in the following four ways:

1 Smoke penetration through the cracks in the cell doors;
2 Release of pyrolytic gasses through the pinewood frame in the ceiling construction of the cells.
3 Penetration of smoke through the ventilation openings in the ceilings, after the flexible duct components of the air-conditioning system gave way;
4 Smoke penetration via the collapsed window frames.

These points are explained further below.

Sub 1:
Smoke penetration through the chinks in the cell doors

In spite of the fact that the cell doors were designed to be fire-resistant, the chinks in the doors allow smoke to pass through. The fact that smoke spread through the corridor from cell 11 even before the door was opened by the two guards is a clear indication of this.
The volume flow with which smoke is capable of moving through the chinks in the door is difficult to determine. Apart from the geometry of the cracks, the difference in pressure between the cell space and the corridor space during the fire actually plays a prominent role here, and this factor is unknown. Nevertheless, in order to obtain an impression of the smoke movement from the corridor through the chinks in the door to a closed cell, the Board decided to perform a fire test on a cell door in a standard arrangement[18] in order to determine the WBDBO (resistance to fire movement [NEN])[19]. In this type of test, a differentiated distribution of pressure is applied along the cracks in the door according to a standard which is based on a standard development of the fire.
In the test, the door of the cell, as well as the smaller door of the technical shaft located adjacent to it, were arranged in the test set-up. To include the door of the technical shaft in the test would be relevant, since the technical shaft is not separated from the cell space in a fire-resistant and smoke-resistant manner.
As early as one minute after the start of the test, the first smoke movement could be detected along the upper chink of both doors. After five minutes, the smoke was passing through so intensely that it is reasonable to conclude that in the actual situation, the entire cell would have been filled with smoke at that moment (see Figure 2). Nine minutes after the start of the test, the first criterion for the WBDBO determination was exceeded by the door of the technical shaft, followed one minute later by the cell door. This means that in less than ten minutes, the doors not only allowed a great quantity of smoke to pass through, they also lost their ability to resist fire penetration according to the currently valid norm.

18 European norm EN 1634-1 (2000)
19 WBDBO: resistance to fire penetration and fire transfer

Figure 2: Smoke passing through the cell door and the door of the technical shaft, five minutes after the start of the test

Sub 2:
Release of pyrolytic gasses through the pinewood frame in the ceiling construction of the cells

From the time that the hot combustion gasses from the fire reached the ceiling space above the cells, the unprotected steel tops of the cell containers heated up rapidly. The hot steel then gives off radiant heat to the pinewood beams which are thermally insulated by rock wool and located in the ceiling construction under the container roof. As a result, the pinewood pyrolizes (degasses). At temperatures between 200 and 280ºC, wood releases primarily carbon monoxide in this manner.
A sample was taken from the pinewood from the ceiling construction in cell 9, which the fire had penetrated relatively intact but in which nevertheless two people died, in order to determine if this process truly did occur. It appeared that several centimetres at the top of the pinewood were charred (see Figure 3).
This type of carbonization was also even found in cell rows 20 to 26, which were exposed to the heat from the ceiling for a shorter period of time.

Figure 3: Sample from the pinewood frame from the ceiling construction of cell 9. Carbonization of the wood through radiation from above.

Sub 3:
Penetration of smoke through the ventilation openings in the ceilings, after the flexible duct components of the air-conditioning system gave way

There are two ventilation openings in the ceiling of every cell which are connected to the mains of the air-conditioning system via flexible ducting made from aluminium/plastic film. These flexible duct components are located in the ceiling space above the cells and were compromised and later gave way as a result of the fire which raged there. Due to the lack of fire-resistant grids in the ventilation system, the combustion gasses were able to enter the cells unhindered. Through small-scale tests, the Board was able to determine that at a radiation intensity of 40 kW/m2, the flexible duct components gave way after 7 or 8 minutes. At a radiation level of 60 kW/m2 - still a plausible value – the ducts will give way even after 5 minutes. It is possible that the hot combustion gasses, also resulting from the transfer of convection heat, contributed to the flexible duct pipe components giving way, but cannot be established retrospectively.

Sub 4:
Smoke penetration via the collapsing window frames

The Board also subjected the window frame structure to tests based on standardized WBDBO tests (NEN 6069). The exterior of the structure, composed of laminated glass and a small HPL[20] panel, both contained within vinyl window frames, proved to be the weakest. When the exterior of the window was subjected to thermal stress, this part of the structure gave way after only 1.5 minutes. The polycarbonate window on the interior of the structure appeared to be slightly more resistant, but melted away completely after 7 minutes. This means that in the event of the exterior being subjected to thermal stress, or at least according to standardized conditions, the frame construction will give way completely after 8.5 minutes, leading to the creation of an open connection between the interior of the cell and the shell space via the window opening.

On the grounds of the above observations, estimations and assumptions, the Board has arrived at the following reconstruction of the penetration of smoke in cells 9, 10, 12, 13 and 14: Approximately 5 minutes from the time that the fire moved from cell 11 to the corridor, substantial quantities of smoke penetrated the neighbouring cells via the cracks in the doors. At a certain point during the next 5 minutes, the fire reached the ceiling space above the cells. The combustion gasses heated the top of the cell containers which resulted in the pinewood beams underneath to defumigate and pyrolytic gasses, including carbon monoxide, were forced into the cell. Five to eight minutes later, the flexible duct components of the air-conditioning system burnt through, enabling a connection between the burning ceiling area and the cell interiors via the ventilation openings. From that moment onwards, the cell no longer provided any protection whatsoever from the permeating smoke, and the window frame structure giving way not long afterwards no longer played a significant role.

20 High-pressure laminate

In order to arrive at a useful mathematical model on the basis of this sequence of events, we have chosen the time of the flames egress from cell 11 as t = 0. The Board considers the CO which had already penetrated the cells prior to that time as negligible, therefore:

$[CO]_{t=0} = 0$

Furthermore, the Board assumes that, as a result of the burning away of the flexible duct components and the giving way of the frame structure, the cell's smoke-resistance was reduced to nil, and consequently, from that moment onwards (10 to 18 minutes after the flames egress from cell 15), the [CO] inside the cell may be considered to be equal to that of the environment. Therefore:

$[CO]_{t=10/18} = 10{,}000$ ppm

Finally, the Board assumes for the purposes of the arithmetic model that between the times t = 0 and t = 10/18, the CO concentration resulting from the penetration of smoke via the cracks in the door and window and from the pyrolizing ceiling beams gradually rose until it reached the level of the CO concentration found outside the cell:

$[CO]_{t = 0 \rightarrow 10/18} = 0 \rightarrow 10{,}000$ ppm

One important variable is the quantity of respiratory air the victims ultimately inhaled. In the field of medicine, this is normally referred to as the respiratory minute volume (total volume breathed per minute) which is expressed in terms of l/min. The respiratory minute volume is heavily dependent on the amount of work a person performs. The following values are considered to be rules of thumb in the field of exercise physiology, and apply to adults in normal physical condition:

Activity	Minute Volume in l/min
At rest	6 - 8
Slight exercise (walking at a leisurely pace)	15 - 30
Moderate exercise (cycling, table tennis)	30 - 40
Strenuous exercise (cycle racing, jogging)	> 40

Table 3: Respiratory minute volume for an adult in normal physical condition

The fact that during the fire, which broke out shortly before midnight, people were sleeping and did not wake up, may not be excluded.
Given the commotion in the corridor and the noise caused by the fire itself, this is however, unlikely. Nevertheless, it is conceivable that the cell occupants realised how important it was to breathe as calmly as possible, in order to minimize inhalation of smoke. For this possibility, it has been established that the minimum respiratory minute volume was 8 l/min; this is the average level found in the test subjects in the experiments previously mentioned which were conducted by Stewart et al. It is also possible that the cell occupants made a desperate attempt to escape by applying mechanical force. Occupants of D Wing who had a view of the burning K Wing observed that the cell occupants were trying to break the windows with chairs. We could classify this type of activity as being moderate to strenuous, in which a degree of respiration of 40 l/min is plausible.
One relevant factor is the smoking habits of the victims. Tobacco smoke contains carbon monoxide which is absorbed in the body of a smoker. A heavy smoker could build up a COHb saturation level of up to 10% (Nelson, 1993).
Since smoking was permitted on K Wing (unlike J Wing), smoking cell occupants were preferably accommodated here. Most of the occupants of K Wing were smokers indeed. For this reason, the possibility must be taken into consideration that some of the victims had already built up a COHb% prior to the fire as a result of inhaling tobacco smoke.

In order to determine the earliest possible time of death for the first victim, we must substitute the following values:

Flames egress from cell 11 at	t = 0
Fire reached flexible duct components at	t = 5 min.
First flexible duct components gave way at	t = 10 min.
COHb% of victim at start of the fire, caused by smoking	= 10%
COHb% of victim at time of death	= 59%
Breathing during moderate to strenuous exercise	40 l/min.

The build up of COHb% for this victim during the first 12 minutes is the following:

Minute	Average [CO] ppm	Increase of COHb% litre/min. according to Stewart's formula	Minute Volume l/min	Increase COHb%/ min.	COHb% cumulative
before	0	0	8	0	10
1e	500	0,02	40	0,8	10,8
2e	1500	0,06	40	2,4	13,2
3e	2500	0,11	40	4,4	17,6
4e	3500	0,16	40	6,4	24,0
5e	4500	0,21	40	8,4	32,4
6e	5500	0,26	38	9,9	42,3
7e	6500	0,30	8	2,4	44,7
8e	7500	0,35	8	2,8	47,5
9e	8500	0,40	8	3,2	50,7
10e	9500	0,45	8	3,6	54,3
11e	10000	0,50	8	4,0	58,3
12e	10000	0,50	8	4,0	62,3

Table 4: Build up of COHb% for the first victim of the fire during the first 12 minutes.

In the table, the increase in the victim's COHb% per minute and per litre of respiratory air is calculated on the basis of the carbon monoxide saturation in the ambient air of the cell according to the comparison made by Stewart et al.
Since unconsciousness sets in at a COHb% level of 40, the relatively high respiratory minute volume above this level is not maintained. In the table, after the sixth minute, during which a COHb saturation of 40% is achieved, the minute value drops back down to the level at rest of 8 l/min.

In the last column, we see that the cumulative COHb% of 59 was attained during the twelfth minute. On the basis of the mathematical model, it may thus be assumed that the first victim could have died 12 minutes after the flames egress from cell 11. This is 16 minutes after the automatic fire alarm sounded; this occurred at 11 minutes past midnight.

In order to determine the latest possible time of death for the last victim, we must substitute the following values:

Flames egress from cell 11 at	t = 0
Fire reached flexible pipe components at	t = 10 min.
Flexible pipe components gave way at	t = 18 min.
COHb% of victim at time of death	= 80%
Calm rate of breathing	8 l/min.

The build up of COHb% for this victim during the first 30 minutes is the following:

Minute	Average [CO] ppm	Increase of COHb% litre/min. according to Stewart's formula	Minute Volume l/min	Increase COHb%/ min.	COHb% cumulative
1e-18e	5.000	0,23	8	1,84	33,12
19e-29e	10.000	0,50	8	4,00	77,12
30e	10.000	0,50	8	4,00	81,12

Table 5: Build up of COHb% for the last victim of the fire during the first 30 minutes.

In the table, we see that the COHb% of 80 was exceeded during the 30th minute. On the basis of the mathematical model, it may thus be assumed that the last victim died no more than 30 minutes after the flames egress from cell 11. This is 34 minutes after the automatic fire alarm sounded; this occurred at 29 minutes past midnight. The result of this estimate is that the ten victims in cells 9, 10, 12, 13 and 14 most likely died between 00.11 and 00.29 hours.

It cannot be stressed enough that this estimate is based on a number of assumptions, all of which have been set out above. Since the times of 00.11 and 00.29 hours suggest an accuracy which is simply not possible, they have been rounded off in the report to 00.10 and 00.30 hours.

3. The victim in cell 5

The arithmetic model set out above does not apply to the victim in cell 5. In fact, of the four possibilities identified for the penetration of combustion gasses, only the first (cracks in the door) applies to this cell. The fire did not rage in the ceiling space above this cell. Traces of pyrolysis in the pinewood ceiling beams were not found in this cell either; the flexible duct components were not burned; the window in cell 5 was still completely intact.
The penetration of smoke through the cracks in the door will also have been limited in the case of this cell since deformation due to thermal stress was relatively minimal at this location, distant as it was from the fire.
For this reason, it is likely that the period during which it would have been possible to survive the conditions present in cell 5 was longer than that in the other cells in which the victims did not survive. It is nonetheless no longer possible to determine the time of death of the person in this cell. The victim's mortal remains were discovered by the Fire Brigade at approximately 01.15 hours (see also appendix 3 regarding the victim in cell 5).

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APPENDIX 3 THE VICTIM IN CELL 5

1. Introduction

During the night of 26 and 27 of October, a fire raged on K Wing of the Detention Centre Schiphol-Oost. Eleven cell occupants died as a result of this fire. Shortly after the fire broke out, two guards were able to free most of the cell occupants on K Wing, however due to the heavy smoke production on the wing, they were unable to complete this rescue operation. In the five cells which remained unopened, ten cell occupants died as a result of toxic smoke inhalation.

The eleventh victim was found in cell 5, a cell which was in fact opened by a guard. There is no doubt in this regard as this victim's cell mate was one of the survivors. Whereas all of the other occupants of the opened cells left the burning K Wing, the occupant of cell 5 remained behind in his cell. For this reason, the Board has attempted to answer the following question:

Why didn't the occupant of cell 5 leave his cell?
This question could lead to two substantially different answers:

1. The cell occupant remained in his cell voluntarily. The reason for this could be that he was afraid. It is also conceivable for example that he took cover in his cell because he believed that he was relatively safe there, or because he was not aware of the seriousness of the situation.
2. The cell occupant remained in his cell against his will because the cell door was locked. Since it has been established that the cell was opened by a guard, it follows from this that the door was locked again after it had been opened.

In order to gain better insight into the various possibilities, the follow-up questions below have been formulated:

1. Was the door to cell 5 open or closed during the fire?
2. If the door was closed during the fire, was it locked or unlocked?

In order to answer the questions above, all of the available information will first be presented below.

2. Investigation data

The location of cell 5 with respect to the fire

Cell 5 is part of the row of cells (1 to 6) which remained out of the fire's range. Also the fire did not rage in the shell space around these cells (ceiling space, crawl space and cavity on the window side). Heat and smoke did however leave their marks in cells 1 through 6.

Diagnostic findings from the autopsy

As was the case in the post-mortem reports from the other ten victims, it appears that signs of inhalation of soot and CO intoxication (carbon monoxide) were also found in the victim in cell 5. Unlike the other victims, no fire injuries were observed in the deceased occupant of cell 5.

Opening the door to cell 5

Around 23.56 hours[21] the door to cell 5 is opened by a guard. The images show how, after having been opened, the door to cell 5 starts to swing back in the direction of the doorway. With most of the other cells, the door does not appear to swing shut again after having been opened

Images from the security cameras on K Wing

Locking in of occupants of cell 5

In studying the security camera images from K Wing it appears that the victim enters cell 5 at approximately 16.40 hours. Approximately 30 seconds later, the second occupant of cell 5 enters the cell. Immediately after the victim and his cell mate enter the cell, they are locked in by a guard.

21 All of the images and times shown are from Wednesday, 26 October 2005.

Rescue of the locked in occupants
The camera footage from K Wing shows how two guards (one from D Wing and one from A Wing) start opening the cells. At around 23.58 hours, one of the guards starts opening cell 1 and cell 2 at the upper left end of the corridor. It is shown in these images that this guard leaves the doors of the first two cells open. On the other side of the corridor, the second guard starts opening cells 26, 25, and 24. This guard likewise, did not close the cells after rescuing the occupants. As a result of the smoke production in the wing, the further activities of the guards are no longer visible on the camera footage.

Transcripts
From the transcripts, it appears that the discovery of the victim in cell 5 was reported to the Regional Emergency Centre (RAC) at around 01.38 hours.

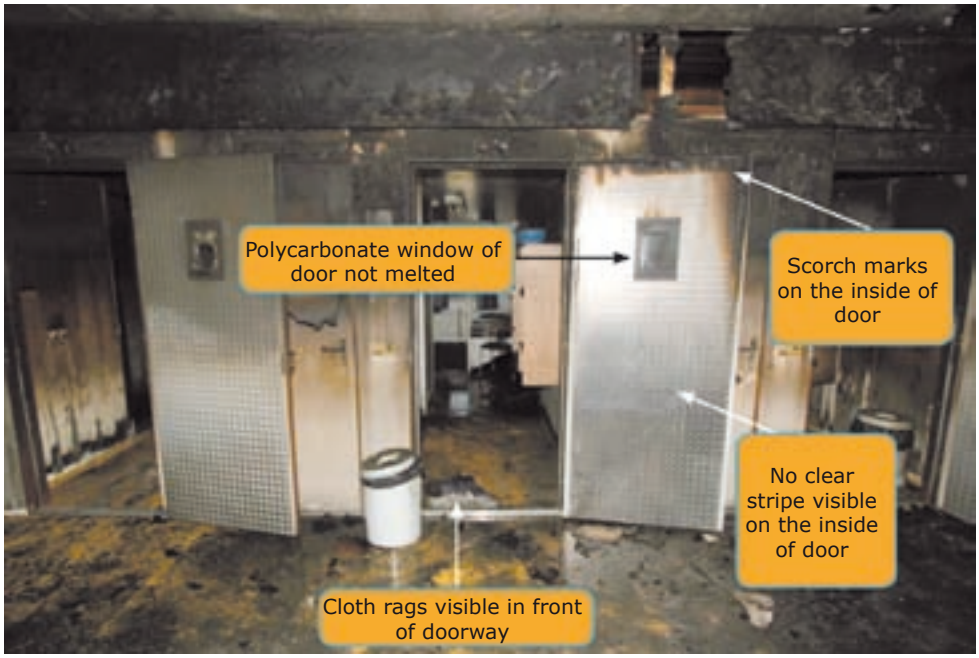


Figure 1: View of cell 5

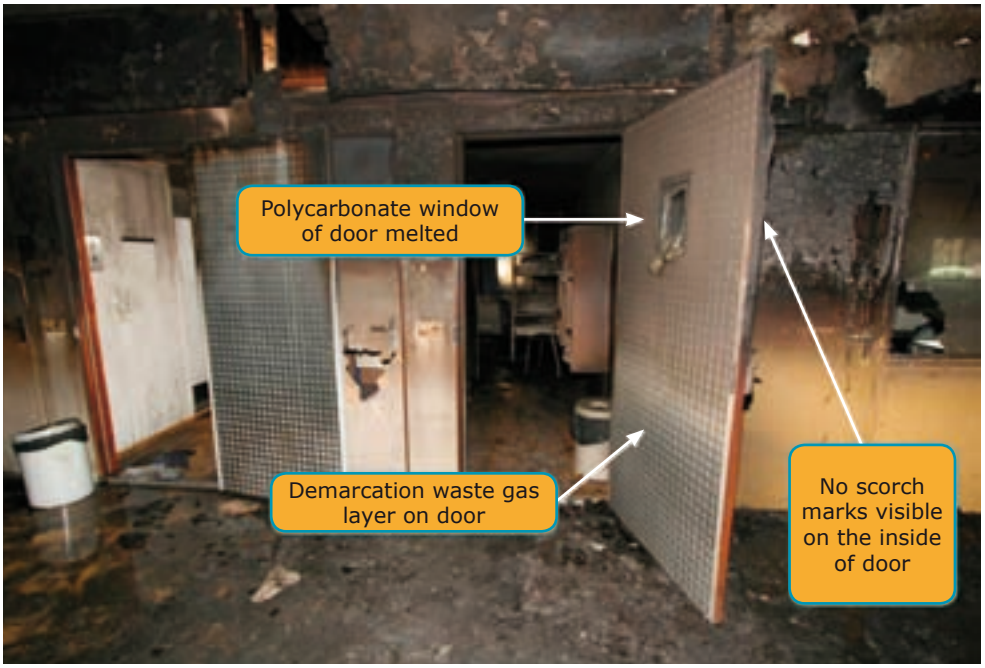


Figure 2: View of cell 6

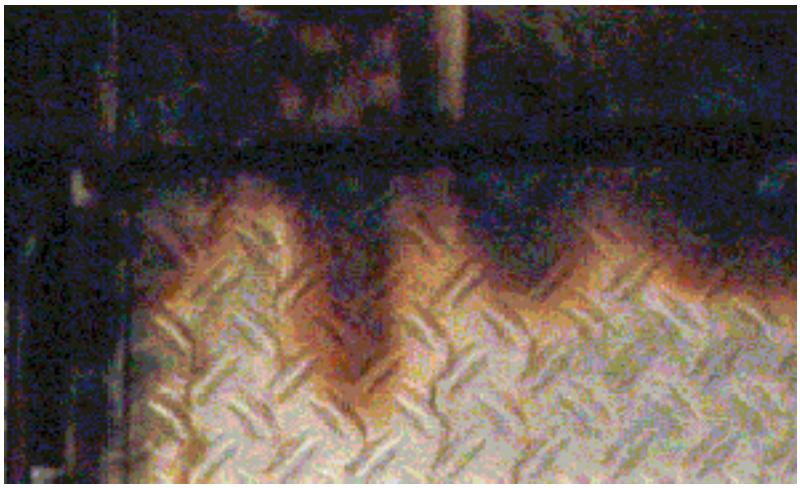


Figure 3: Finger-shaped scorch pattern on the interior of the door to cell 5

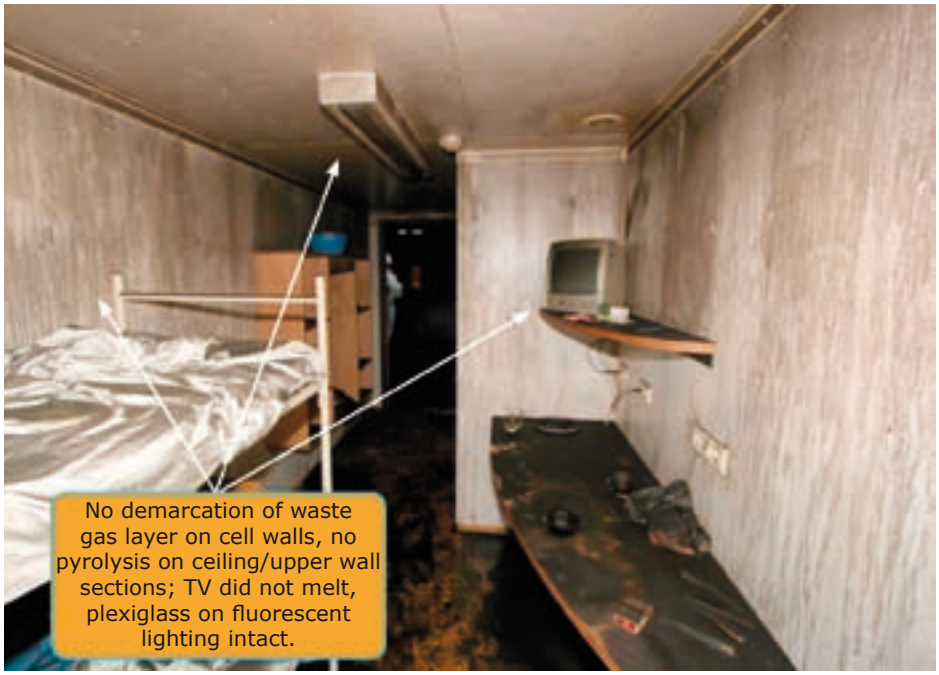


Figure 4: Interior of cell 5

Figure 5: Interior of cell 6

Observations made for Cell 5 and Cell 6

Doors to Cell 5 and Cell 6
On 27 October 2005, the criminal investigation department took photographs of the cells on K Wing. This appendix includes several of these photos. These are photographs of the doors to cell 5 and cell 6 (see figures 1 and 2). A careful study of these photographs showed that the marks on the door of cell 5 are different from those found on the door of cell 6 and the other doors of the neighbouring cells. First of all, it may be seen that the interior of the door to cell 5 is charred at the top. These scorch marks are finger-shaped in the upper left corner, and these 'fingers' are pointing downwards (see figure 3). There were no scorch marks found on the door to cell 6. On the door to cell 6 however, a horizontal demarcation of the combustion gas layer was visible. This demarcation was not visible on the door to cell 5. Finally, it may be observed that the polycarbonate inspection window on the inside of cell 6 are melted as well as the small windows on the inside of the other doors. The inspection window on the interior of cell 5 did not melt however.

Figure 6: Bolt on the door to cell 5 turned outwards

Interior of cells 5 and 6
After a careful examination of the photographs, it appears that the fire damage in cell 5 differs from that found in the neighbouring cells. Traces of pyrolysis[22] were visible on the ceiling and upper wall sections of cell 6. In cell 5, the interior and the walls were marked with a scorch pattern, yet no traces of pyrolysis were visible. This was however the case in the neighbouring cells. Furthermore, the television in cell 5 appeared to be intact. The televisions in the neighbouring cells, on the other hand, were deformed. The plexiglass of the fluorescent lighting gave way in cell 6 and the neighbouring cells. The plexiglass of the fluorescent lighting in cell 5 was still intact.

Bolt on the door to cell 5
An examination of the photographs taken by the criminal investigation department showed that at the time the pictures were taken (the day after the fire), the bolt on the door was turned outwards (see figure 6).

Cloth rags in front of the door to cell 5
The photographs of cell 5 show that cloth rags were lying on the floor in the vicinity of the door.

Police statements and interviews
There are police statements and interviews available which were conducted with the victim's cell mate, the guards and fire fighters who searched the cells on K Wing and recovered the body of the victim.

The police statements and interviews revealed the following amongst others:

- The guard who opened cell 5, as well as others, stated that he closed the doors of the first cells again after having opened them.
- According to the cell mate, the victim was awake at the time the cell door was opened.
- According to the cell mate, the victim did not believe, at least initially, that there was a fire, since the alarm did not sound.
- According to the cell mate, the victim gathered up his personal belongings before the cell door was opened.
- The victim's cell mate stated that he did not close the door after exiting the cell.
- The fire fighters who were present at the time the victim was discovered stated that the door to cell 5 was open at that time.
- According to the fireman who found the victim, the door to cell 5 was ajar by approximately 30 centimetres.
- According to the fireman who found the victim, the victim was lying on the ground near the door, with his head facing in the direction of the door.
- The fire fighters stated that none of the cell doors were opened with keys.

3. Was the door to cell 5 open, closed or locked during the fire?

Traces on the door and the interior
The most important indication that the door was closed for the larger part of the fire (in other words, there was no access from the cell to the corridor) were the traces left by the fire on the door to cell 5 and on the walls and furnishings in cell 5. It is evident that the temperature in cell 5 during the fire was considerably lower than that in the neighbouring cells. This is demonstrated by the deformation of the plexiglass of the fluorescent lighting and of the TV in cell 6 and other neighbouring cells. The plexiglass and the TV in cell 5 on the other hand were not deformed.
In addition, the horizontal demarcation on the walls and doors of the neighbouring cells is visible, which indicates that a hot combustion gas layer penetrated the cells from the corridor. The horizontal demarcation was not present in cell 5. In any case, these observations indicate unequivocally that there was no open access between cell 5 and the corridor during the first hour of the fire.

22 Pyrolysis: Process in which gasses escape materials containing cellulose such as wood or HPL as a result of heating. The material that remains is charred. A space in which fire did not burn, such as cell 6 for example, which still shows signs of charring is a clear indication of the occurrence of pyrolysis.

Sub-conclusion: the door was closed

On the basis of the information available, it may be concluded that in any event, the door to cell 5 was closed during the first hour of the fire. This means that there was no open access between cell 5 and the corridor during the first hour of the fire. Three positions of the door are possible:

1 The door was not locked but was 'closed'. This means that during the fire, the cell door was in contact with the door frame; in other words, there was contact between the door leaf and the door frame, without the bolt being turned outwards.
2 The door was not locked but was leaning against the frame with the bolt turned outwards. In this position, the door also seals off the open link between the cell and the hall, but a certain amount of space remains between the door leaf and the frame. The door was ajar.
3 The door was locked.

Option 1:
Option 1 requires that after opening the door at the start of the fire, the guard removed the key from the lock without turning it, thus turning the bolt outwards. In principle, this option is possible, but at the same time, unlikely. Staff at the institution are actually trained to turn the bolt outwards again after opening the cell door. The failure to do this presents a safety risk (the guard could be locked in the cell by a detainee intending to do him harm) and this is viewed as a fairly serious error[23]. It is not likely that the guard, who must have repeated this action routinely many times a day, would have acted differently during the fire. For this reason, the Board rejects option 1.

Option 2:
Option 2, 'the door was not locked but was leaning against the frame with the bolt turned outwards' is, given the aforementioned standard procedure prescribed for the opening of cell doors, a real possibility. However, an explanation must be given of why the door did not remain in the open position, as was the case with the other cells. The first possibility is that, as he explained in his statement, the guard closed the doors of the first few cells. Secondly, it is possible that the door to cell 5 closed spontaneously, because it was either not hung properly or because the container was not level. The security camera images from 23.58 hours on 26 October, the time at which the cells were opened, show how, after having been opened, the door to cell 5 swings back a bit towards the doorway. In the case of most of the other doors, the door does not appear to swing shut after being opened. Thirdly, it is possible that during their escape, the occupants accidentally collided with the door to cell 5 causing it to swing shut. A fourth possibility is that the occupant of cell 5 pulled the door shut himself. A fifth possibility is that his cell mate pushed the door shut behind him as he exited. However, this contradicts his statement[24].

Finger-shaped scorch marks may be seen in the upper left corner of the inside of the door (see figure 3). These could have been caused by hot gasses which penetrated through the chink between the door leaf and door frame. This 'penetration' is less likely if the door was in the position described in option 2, because in that case, the chink between the door leaf and the door frame was larger. If the interpretation of the finger-shaped scorch marks is correct, this would be an indication of the likelihood of option 3: the door was locked.

In summary, it may be said that there are just as many indications in favour of option 2 as there are refuting it. It therefore remains possible that the door was not locked, but was leaning against the frame with the bolt turned outwards.

Option 3:
Option 3, 'the door was locked', requires that after the guard opened the door to cell 5 and rescued the other occupant, the door was closed again. This may have been done by the guard herself, who later stated that she closed the doors of the first cells again after rescuing the cell occupants in order to prevent the spread of the fire. The guard was not familiar with the number and location of occupants on K Wing, and might have assumed that there was only one occupant

23 Verbal information from staff at the institution
24 The possibilities mentioned here are not exhaustive.

in cell 5[25]. The fact that all of the other seven cell doors that the guard opened during the rescue operation remained open is at odds with door being closed by the guard. Moreover, the guard would have had to wait for the first cell occupant to exit the cell before locking the door to cell 5. In principle, the fact that one of the fleeing cell occupants locked the door to cell 5 may not be excluded. It is actually possible to do this without using a key, if the bolt is in the unlocked position. By turning the door handle a quarter turn to the right, the bolt emerges and the door may be closed. However, as was contended above, it is highly unlikely that the guard would have left the door behind with the bolt in the unlocked position. The possibility that another cell occupant would have closed the door may therefore be rejected.

One indication in favour of the option in which the door was locked involves the presence of the victim himself. The normal response in the event of a fire is to flee. At the time the guard opened the door to cell 5, the circumstances of the fire did not yet pose an impediment to leaving K wing. The distance from cell 5 to the entrance to K Wing was less than twelve metres. At the time the victim was presented with an opportunity to flee, it was not possible for him to have already been intoxicated by smoke. To the best of the Board's knowledge, he was not taking any medication or drugs, nor did he display any forms of deviant behaviour. His cell mate testified that although the victim initially denied that there was a fire, he started gathering his possessions together. This indicates an intent to flee, yet he did not do this. The assumption that the closed door prevented him from fleeing is then the obvious explanation.

Cloth rags may be seen lying in the doorway of cell 5 in the photographs. It is possible that the cell occupant tried to block the lower chink of the door during the fire to prevent smoke from entering his cell. This could indicate that the door to cell 5 was locked. It is uncertain however whether the cloth rags were in the same spot during the fire. It is possible that the textile items either fell or were moved during the fire, the rescue operation or the recovery.

In summary, it also applies to option 3 that there are arguments favouring as well as refuting its likelihood. The possibility that the door was locked during the fire may therefore not be rejected.

Sub-conclusion: the door to cell 5 was in a closed position during the fire, and either the bolt was in a locked position and leaning against the door frame or the door was locked.

The role of the Fire Brigade

The members of the Amsterdam fire crew who discovered the deceased victim after 01.15 hours in cell 5 stated that the door to the cell was open when they found him. The fireman who found the victim was able to specify exactly how far ajar the door to cell 5 was, and stated that this distance was 30 centimetres. According to his colleague, the door was in fact wide open.
If we combine this fact with the last sub-conclusion that the door was in a closed position during the fire, it follows from this that the position of the door was modified before the victim was found. The period of time during which the door was open could not have been that long, since cell 5 did not show any traces of a hot combustion gas layer and was only marked with a slight scorch pattern.

It may be excluded that a draft or wind caused the change in the position of the heavy cell door since the door was in a closed position and the window to cell 5 remained intact, leading to the conclusion that there was no strong flow of air blowing through the cell.

The possibility which remains is that the door was opened by someone at some stage prior to the discovery of the victim. Because the only people present in the corridor of K Wing during this period were fire fighters, the person responsible must have been a member of the fire crews which carried out an inside attack before 01.15 hours. One or more keys were circulating among the fire crews on K Wing. The fire fighter in question could therefore have opened the door as well as unlocked it and then opened it. The Board has not been able to identify this person.
One could argue that it is less likely that one of the members of the fire brigade unlocked the door since the bolt of the door was in a locked position after the fire and members of the fire brigade, unlike guards, are not trained to turn the bolt outwards after opening a door. On the

25 On the night of the fire, there was only one occupant in nine of the twenty-six cells on K Wing.

other hand, one may also assert that the bolt may also easily, yet unintentionally, have be turned outwards, namely by turning the door handle to the right in a fairly natural movement. It is therefore possible that if this hypothesis were correct, one of the members of the fire brigade unlocked the door and, while pulling the key out, turned the bolt outwards.

An alternative, perhaps far-fetched scenario could be that it was not one of the fire fighters but instead the cell occupant himself who left the door in the open position. This scenario would require that the door to the cell was not locked, that the occupant nevertheless remained in the cell but ultimately still moved the door somehow, perhaps in a last attempt to flee. This attempt to flee failed because the cell occupant lost consciousness and subsequently died.

4. General conclusion

The investigation has not yet produced a definite answer as to the question why the cell occupant failed to flee. It is possible that the door was locked. If this was not the case, the door was in a closed position during the fire, and the bolt was in a locked position and leaning against the door frame. In that case it is not clear why the cell occupant remained in his cell.
The investigation has shown that the door was closed during most of the fire and was open at the time the victim was found. Considering the only people present during this phase of the fire were fire fighters, the door must have been opened by a fire fighter, unless the cell occupant himself was the one who opened the door. This person has however not yet been identified. Since the Fire Brigade had a key, the unknown person either only opened the door, or unlocked it and then opened it.

APPENDIX 4: DESCRIPTION OF FIRE TESTS; NOTES WITH RESPECT TO THE CAUSE OF THE FIRE AND THE EARLY STAGES OF ITS DEVELOPMENT

1. Testing with respect to an 'accidental cause of fire' scenario

In his statement, the occupant of cell 11 gave a description of how the fire started and how it developed during its early stages. According to his statement, the fire started at the foot of the lower mattress of the bunk bed, where a discarded cigarette stub had come between the bedding and some toilet paper, which then caught fire.
To find out whether the fire actually started in this way and to get an understanding of how it developed during its early stages, the Safety Board carried out flammability tests[26] in order to ascertain the flammability characteristics of the most important bed materials. Simulation tests were then carried out on fully laden bunk beds, complete with mattresses and bedding. Finally, the initial stages of the fire were simulated in fully furnished cell containers.

One of the aims of the flammability tests was to determine the flammability of materials by the application of a small flame and the possible self-extinguish ability after removing the flame. The results of these tests were as follows:

	Flammability	Rapid spread of fire
Pillow and cotton pillowcase	Yes	Yes
Blanket	Yes	Yes
Mattress	No	No

Table 1: results of the flammability test on bed materials

The flammability tests showed that the pillow, pillowcase and blanket quickly took light after being subjected to a small flame. This was not true, however, in the case of the mattress, which appeared to self-extinguish. This means that a larger amount of ignition energy is required before the mattress finally catches fire. To find out whether it is possible for the bedding to have provided that amount of ignition energy, a series of tests[27] was carried out to ascertain the level of combustible heat that would be released if the material was exposed to a standardized thermal load (25 or 50 kW).

The tests revealed that the pillow with the cotton pillowcase can reach a peak heat release of 290 kW/m^2 within a short space of time (15 seconds) at a thermal load of 50 kW/m^2. After peaking, this heat release decreases rapidly.

However, the blanket, partly because of its size, appeared to be an even more important source of combustion heat. At a thermal load of 50 kW/m^2, over a period of 25 seconds, heat release rates rise to a peak of 400 kW/m^2, which is more than enough to ignite the mattress.

At a thermal load of 25 kW/m^2, the mattress produced a peak heat release rate of 120 kW/m^2, after 70 seconds, primarily as a result of the PVC protective cover being combusted. At a stress level of 50 kW/m^2, the combustion of the protective cover leads to a rate of 220 kW/m^2 even after 25 seconds. A peak rate of 450 to 500 kW/m^2 is reached after four to six minutes as a result of the combustion of the mattress core. The mattress is about 2m^2 in size and it is quite plausible that a peak heat release rate of 1000 kW is reached in the combustion of a single mattress. In a space the size of cell 11, this is enough to produce levels which attain flashover conditions.

26 Flammability tests in line with the European standard ISO 11925-2.
27 The so-called Cone Calorimeter Tests in conformity with ISO 5660.

From the results of the tests, in combination with the situation during the early stages of the fire as described by the occupant of cell 11, it can be concluded that it is well possible that the fire initially spread from the burning blanket to the other bedding, with the easily ignitable blanket being suspected as the first link in the combustion chain. Within the space of 30 seconds, the blanket can generate enough heat to ignite, despite its self-extinguishing qualities.

Integrated bed tests

In order to test this process of sequential inflammable bed materials under experimental conditions, the Safety Board carried out a number of tests on cell beds, complete with the aforementioned mattresses, bedding and items of clothing. Figures 1 and 2 indicate the combustion heat generated in two tests in relation to time elapsed from the moment of ignition. Figure 1 shows the heat release during the first bed test, where the materials in and on the bunk bed were arranged in much the same way as described by the occupant of cell 11. The bedding on the lower mattress was not made up (i.e. open) for this test set-up. The fire was ignited at the toilet paper at the foot end of the mattress on the lower bunk. The sheet, blanket, lower mattress flared up in succession, followed by the mattress on the upper bunk, after which a peak heat release of 1.7 MW was attained.

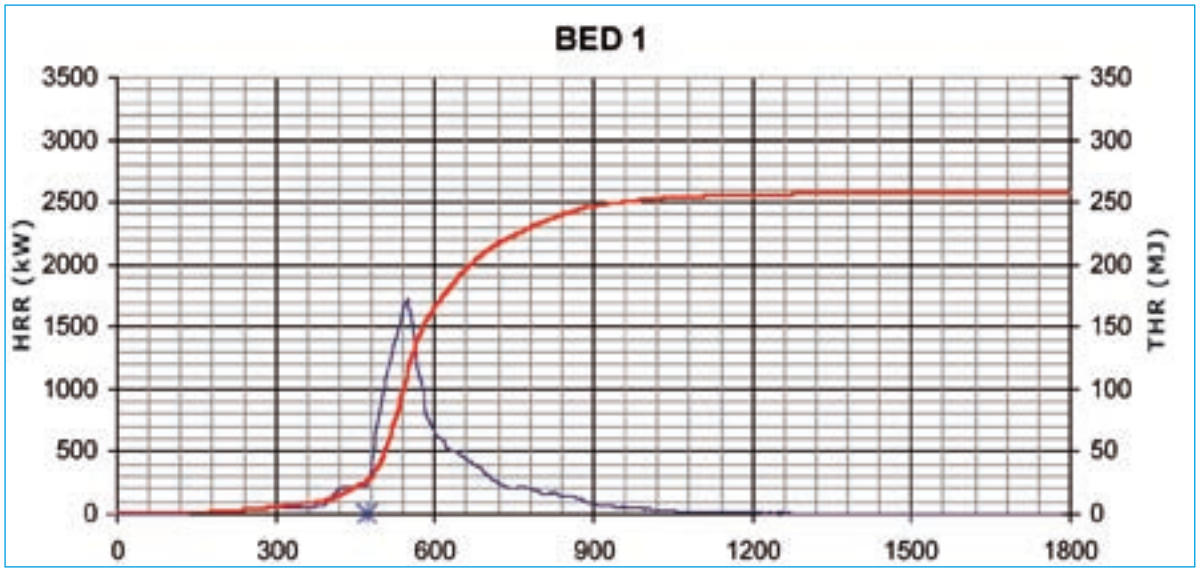


Figure 1: First integrated bed test – heat release of the burning bunk bed. Ignition at t = 0.

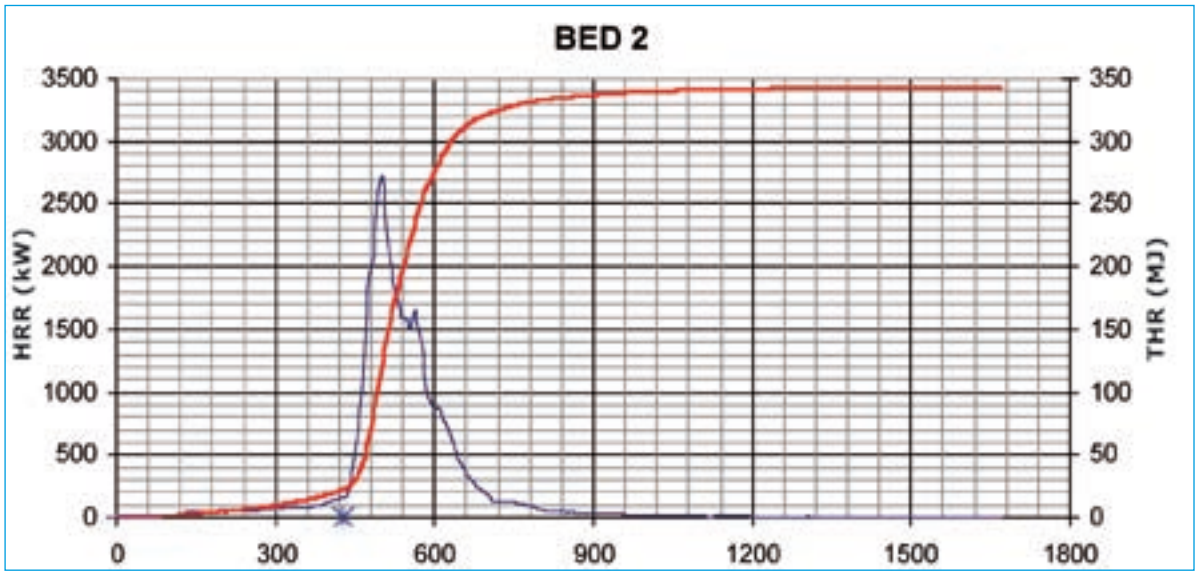


Figure 2: Second integrated bed test – heat release of the burning bunk bed. Ignition at t = 0.

The second bed test was carried out with the same set-up as that used for the first test, the only difference being that the bedding this time was made, instead of open. Likewise, this bed test (figure 2) showed that the successive combustion of the toilet paper, sheet, blanket, lower mattress and upper mattress can explain the initial development of the fire. The final peak heat release of the burning bed was even higher than in the first test, namely 2.7 MW. Likewise, total heat release (THR) for the second test (340 MJ) was higher than for the first (260 MJ). This difference can be explained by the presence of plasterboard, which was placed under the bunk bed in the second test to provide protection for the floor of the lab. A burning puddle of polyurethane caused by the smouldering mattress formed on this plasterboard. In the first test too, a puddle of polyurethane likewise formed, but since in this case, the bunk bed was positioned on a cold stone floor, the puddle cooled so that the melted polyurethane did not make any further contribution to the fire. The difference between the two tests therefore is that only part of the polyurethane burned in the first test, and all of it in the second test, so that the second test provided the most representative outcome for the maximum heat release from the bed. The 2.7 MW for the two mattresses, bedding and clothing would seem to correspond well to the previous estimate of 1 MW for the combustion of a single mattress.

For both tests, there was a rapid acceleration in the development of the fire at the point when the bottom of the mattress on the top bunk became involved in the fire (indicated on the x-axis by an asterisk). This point in time was established using camera images that were taken in the cell container. This acceleration took place in the eighth minute after ignition in both tests.

By examining the camera footage of the bed tests in closer detail, it was possible to analyze the mechanism behind this acceleration in the development of the fire. It would appear that the geometry of the bunk bed and the flow of air and heat within played a role in this. In figures 3 to 5, the development of the fire has been formalized.

Figure 3 illustrates the initial seat of the fire on the lower mattress. The seat of the fire draws in fresh air from below; heated air rises upwards towards the upper mattress. Because the flames are small and have not yet reached the upper mattress, the seat of the fire can only spread in a lateral direction at the surface of the lower mattress. However, the spread of the fire is opposed by the direction from which the fresh (i.e. cold) air is drawn in, and as such is impeded. It takes relatively a long time before the seat of the fire spreads to such an extent and the flames get higher.

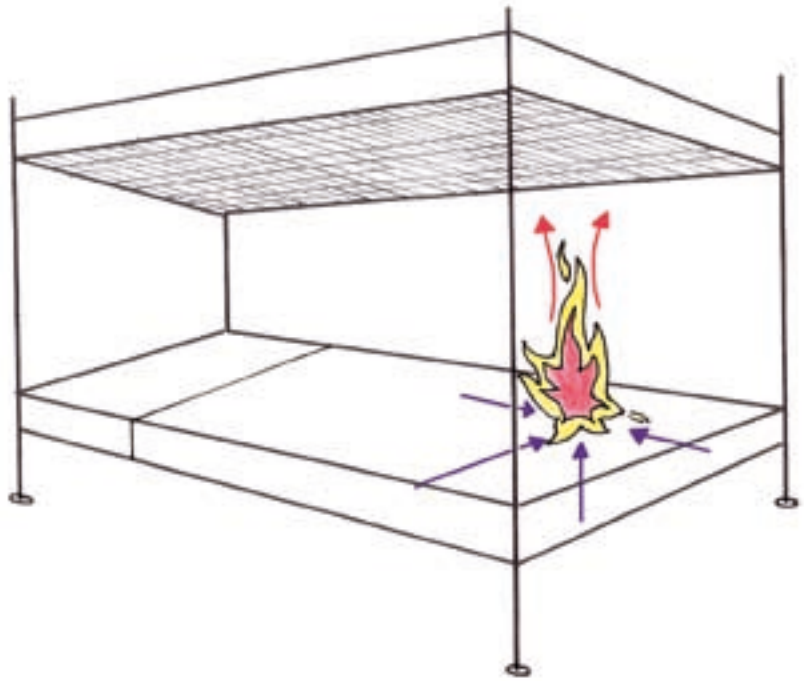


Figure 3: Initial seat of the fire on the lower mattress. The direction of the fire's development is opposed by the supply of fresh, relatively cold air (blue arrows).

Eventually, the flames reach the underside of the upper mattress (see figure 4). Here, they come into contact with the steel springs which are under the mattress. The springs absorb the combustion heat, and this is spread across the underside of the upper mattress. It takes some time therefore before the ignition temperature of the mattress is attained. Likewise, this phase of the development of the fire takes a relatively long time.

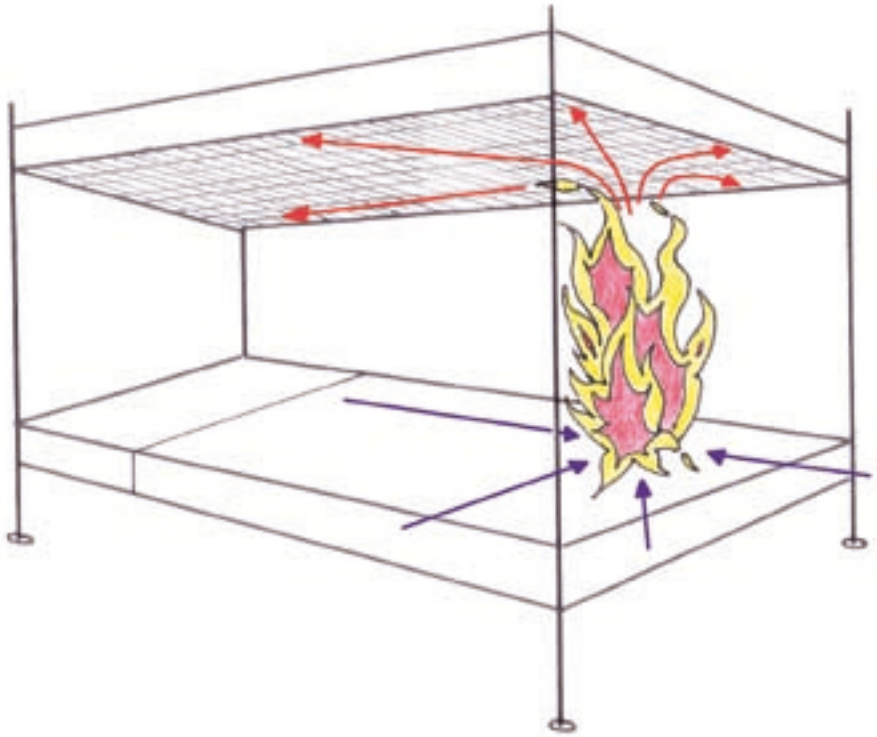


Figure 4: Flames reach the underside of the upper mattress. The heat is spread across a large surface by the bed springs (red arrows).

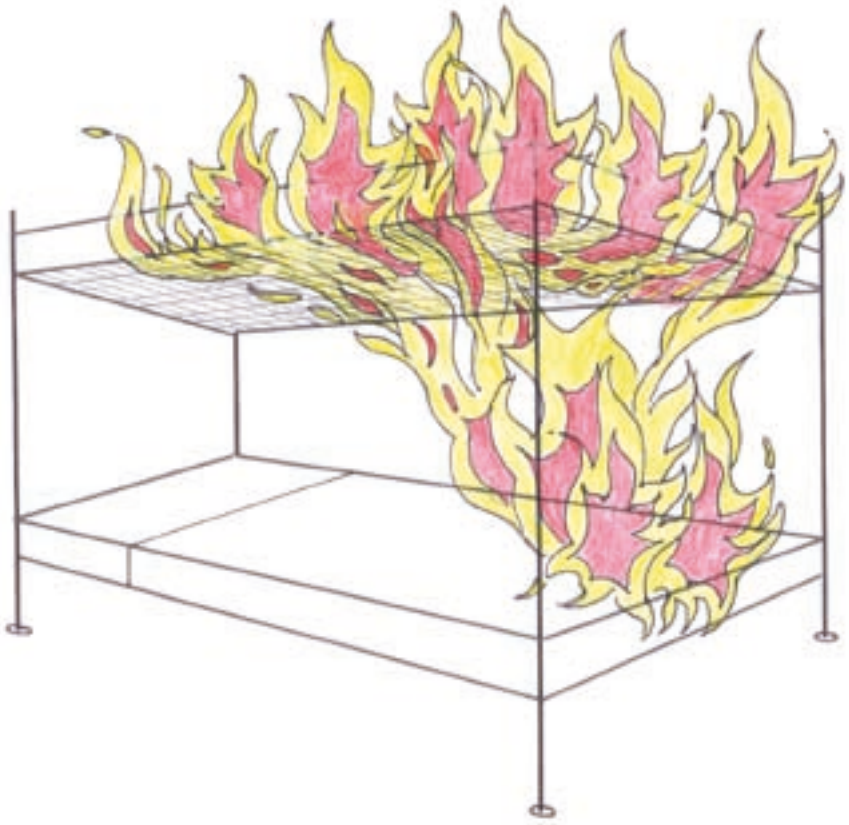


Figure 5: Fire takes hold of the upper mattress in full.

Because the steel bed spring spreads the combustion heat across the underside of the upper mattress, the mattress does heat up slowly, but across an extensive surface. At the point when the mattress eventually attains its ignition temperature, it starts to burn all over almost immediately (figure 5). From that point onwards, the heat released by the fire develops extremely rapidly (see figures 1 and 2). Situated in a space the same size as cell 11, the burning bunk bed now reaches enough capacity for flashover. Finally, the flashover causes a rapid increase in the production of smoke (see appendix 5)[28].

Integrated cell fire tests

The next series of experiments consisted of simulating a fire in fully furnished cell containers, consisting of the standard fixtures and fittings, plus the personal belongings of the cell occupant. Figure 6 and 7 indicate the heat release for two of the three cell fire tests carried out. For purposes of clarity, it should be mentioned that the first cell fire test was discontinued shortly after the flashover; for the last test, the fire was put out after half an hour.

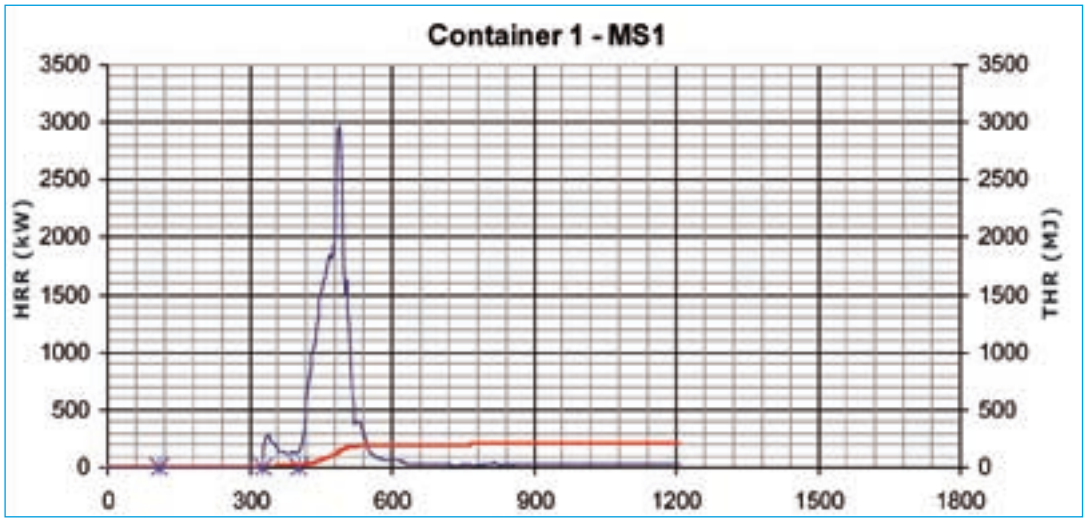


Figure 6: First integrated cell fire test – heat release of burning cell.

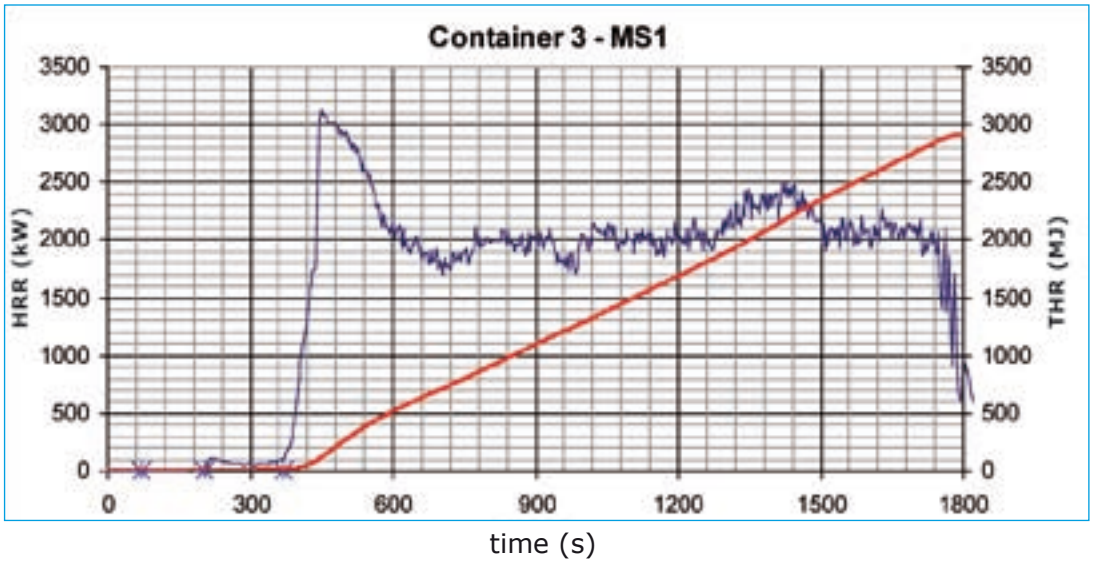


Figure 7: Third integrated cell fire test – heat release of burning cell.

In figures 6 and 7, three asterisks have been placed on the x-axis, the first two of which indicate the triggering of the fire alarm and the opening of the cell door respectively.
The third asterisk indicates the point at which the underside of the upper mattress caught fire. In the cell fire tests, this takes place around a minute earlier than in the integrated bed tests, which might be explained by the temperature in the cell containers developing more quickly in view of the fact that it is more difficult for the heat to escape.

Tables 2 and 3 indicate the most important events in relation to the time.

	Bed 1	Bed 2	Cell fire test 1	Cell fire test 3
Ignition	0:00	0:00	0:00	0:00
Fire alarm activated	-	-	1:49	1:19
Door opened	-	-	5:28	3:33
Mattress 2 catches fire	7:53	7:10	6:45	6:10
Flame egress from cell	-	-	7:39	6:50

Table 2: Times cross-referenced against the moment of ignition

	Schiphol	Cell fire test 1	Cell fire test 3
Ignition	?	-1:49	-1:19
Fire alarm activated	0:00	0:00	0:00
Door opened	2:08	3:39	2:14
Mattress 2 catches fire	?	4:56	4:51
Flames egress from cell	3:55	5:50	5:31

Table 3: Times cross-referenced against the moment of activation of the fire alarm

Table 3 demonstrates that both cell fire tests progressed in almost identical fashion, but that the development of the fire, up until the point of the flames egress from the cell, was one and a half to two minutes slower than in the actual fire.

In view of the fact that ignition of the upper mattress appears to be so crucial in the sudden acceleration in the progress of the fire, it would seem self-evident to look for the cause of the relatively slow development of the cell fire tests in the transfer of the fire from the lower to the upper mattress.

A small change in the test set-up, for example, by positioning a blanket[29] on the upper mattress so that it hangs over the edge of the bed, will lead to a significant acceleration in fire transferring to the upper mattress. If the blanket catches fire shortly after the door is opened, the upper mattress will start to burn a maximum of one minute later and, according to table 3, 40 to 50 seconds later, the flames will egress from the cell door. To a large extent, this scenario corresponds with the actual data known from the Schiphol fire.
The Safety Board does not know whether there was any bedding[30] (hanging) on the upper mattress.

To summarize, it can be said that the rapid development of the fire, as was the case in the actual fire, can be satisfactorily explained by simulation tests with a fully furnished cell container. The progress of the fire, from the initial seat of the fire at the foot of the bed, can be realistically simulated, although the development of the fire in the tests required more time than in reality. The slight discrepancy between simulation and reality can be explained by the relatively small differences in the initial arrangement.

The conclusion therefore is that the 'accidental cause of fire' scenario may be deemed realistic and can therefore not be excluded.

29 The blanket produces approx. 8 MJ/m^2 in scarcely one minute's time (measured with an external radiation of 25 kW/m^2).
30 The departmental head of J and K Wing stated that each cell occupant would normally be given one blanket plus a set of sheets. However, what normally happens in practice is that when a cell is only used for single occupancy, the other set of blankets and sheets is left in place.

2. Testing with respect to 'arson' scenario

The deliberate setting on fire to property in cells for detainees is a regular occurrence[31]. Even in the short history of the Detention Centre Schiphol-Oost, (small) fires have occurred which have been started by cell occupants. Partly because the occupants of K Wing were allowed to have cigarette lighters in their possession, the question arises as to whether the fire in cell 11 started as an act of deliberate intent.

In parallel with the fire tests described above, in which an accidental scenario was simulated for the development of the fire, both the integrated bed test and the cell fire test were carried out for the 'intentional' scenario. For the purposes of these tests, the lower bed was not made up in the normal way, but the mattress was 'rolled up', where the mattress roll was positioned vertically and filled with blanket, sheets and two unrolled rolls of toilet paper. The reason for this arrangement was that an arsonist would reasonably be expected to collect together as much flammable material as possible in order to cause an effective fire.

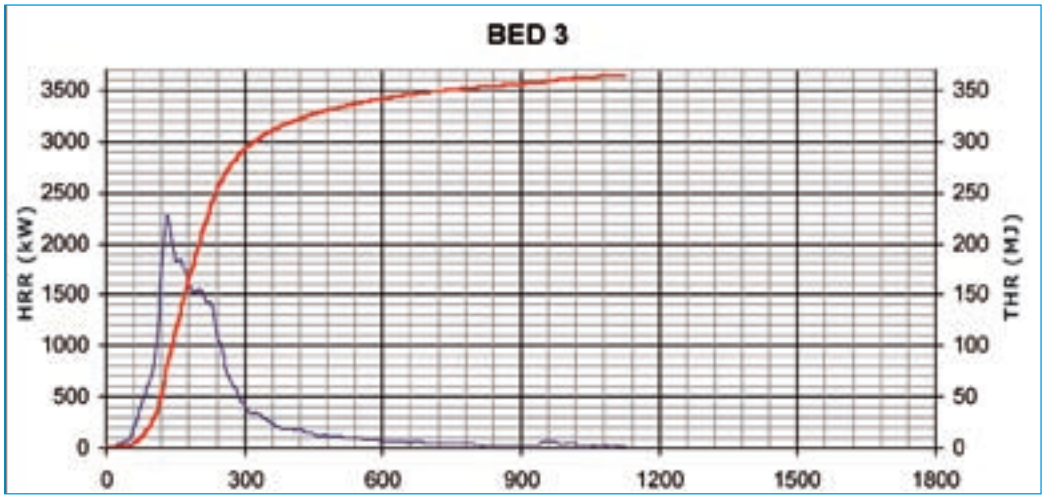


Figure 8: Integrated bed fire test for the 'intentional' scenario.

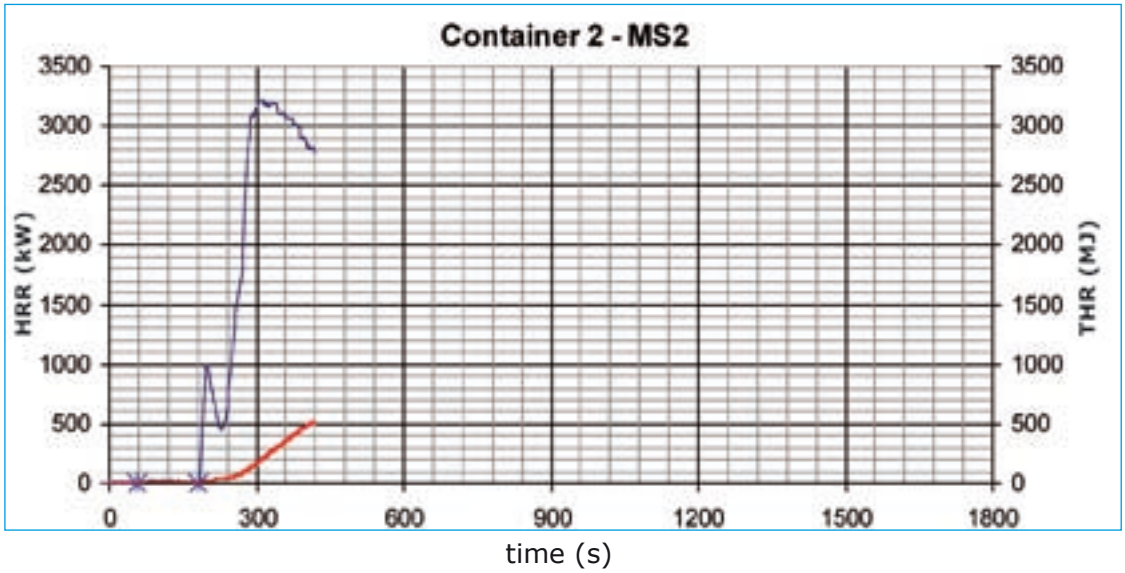


Figure 9: Cell fire test for the 'intentional' scenario.
N.B.: After 7 minutes a technical defect occurred in the registration equipment.

31 Cells and Cell Blocks Fire Safety Scheme, Ministry of the Interior and Kingdom Affairs, 1994.

Both the integrated bed fire test and the cell fire test, show a completely different fire development than in the set-up used for the accidental fire scenario. The vertically placed mattress roll functioned as a chimney, so that after just 45 seconds after ignition, there were flames as high as one metre (see table 4). Where other fire tests showed a relatively slow development in respect of the lower mattress (see figures 3 to 5), the development of fire using this arrangement accelerated after just one minute, almost immediately following activation of the smoke alarm. Because the conflagration consumed all of the oxygen in the cell, the fire started to subside just thirty seconds after the automatic fire alarm signal in the cell fire test. Less than a minute and a half after the automatic alarm, the flames had disappeared completely and the emission of smoke through the cracks in the door stopped (see table 4).

	Schiphol	Cell fire test 2
Ignition	?	- 0.56
Flame height estimated at > 1 m		- 0.10
Automatic fire alarm	00.00	0.00
Visible dying down of fire		0.32
No more flames visible		1.25
Smoke emission through cracks in door stops		1.28
Door open	2.08	2.08
First flames visible again		2.33
Polycarbonate inner pane starts to burn		3.05
Flame emission from cell doorway	3.55	3.20

Table 4: Development of fire in cell fire test for the 'intentional' scenario

At the point when the cell door is opened, the fire has fully subsided for over half a minute. It takes some time before the fires sets hold again. However, when the flames begin to conflagrate again half a minute after the door is opened, there is a rapid development of fire which results in the polycarbonate[32] inner pane giving way half a minute later, and fifteen seconds later, flames emerge from the doorway.

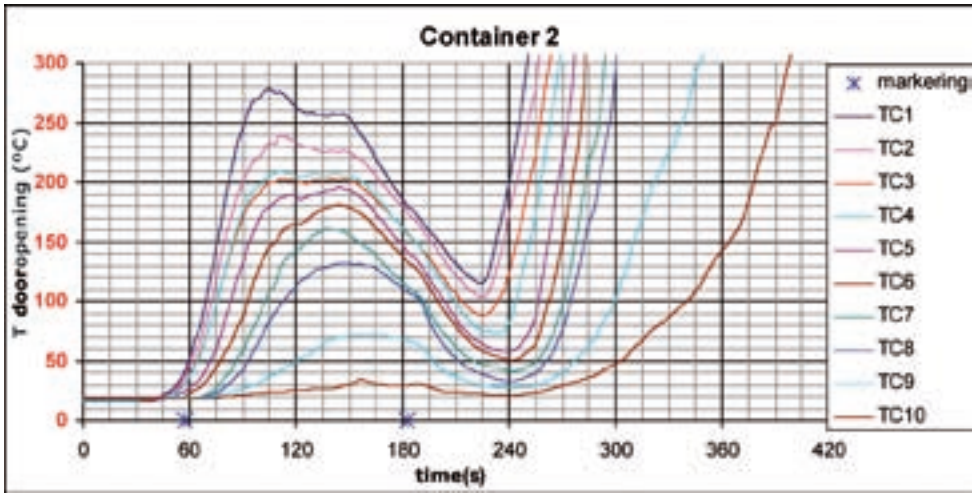


Figure 10: Temperature development in the doorway during the first few minutes of the container test for the 'intentional' scenario. First asterisk on the x-axis: fire alarm. Second asterisk: opening of door.

If the simulation test is compared with the actual fire, it can be seen that, in contrast to the tests for the accidental scenario, the development of fire is quicker than for the actual fire. Despite the stagnation occurring in the fire test as a result of the fire subsiding, the egress of flames from the cell took place half a minute earlier in the actual fire. The discontinuation of smoke emission as a result of the fire subsiding, one minute after the automatic fire alarm, did not take place in the actual fire or is at least not visible on the camera footage. One minute after the automatic fire

32 In a standardized test arrangement where the window frame construction receives a thermal load, the polycarbonate inner pane gives way only after 7 minutes

alarm, when the cell occupant pressed the call button for assistance in the actual fire, in the test cell, the heat has reached such high temperatures (see figure 10) that it would be expected that the cell occupant would have more than just localized burns.

Self-evidently, the cell test fire would have had a more gradual development if a less extreme test set-up had been used, for example, by collating a smaller quantity of flammable material, or simply folding the lower mattress double instead of rolling it up into the shape of a chimney. Just as in the tests for the accidental scenarios, the fact is, for this test too, making changes to the original set-up might have probably resulted in a better simulation of reality.

Consequently, on the sole evidence of the cell fire tests, the conclusion is that no choice can be made between whether the fire was caused accidentally or was started deliberately.

3. Other notes with respect to the start of the fire

Fire traces in cell 11
There are several V-shaped patterns[33] and burn imprints on the walls of cell 11, the most striking of which is visible in the vicinity of the bunk bed, in terms of height, between the lower and upper mattress. This burn mark is not only visible on the inside but also on the outside of the cell container, and even on the inside of the shell, which here consists of the end wall of K Wing (see figure 11).

Neither the V-patterns nor the burn imprints can be the result of one or more primary seats of fire. After all, the primary seat or seats of fire were insulated from the container wall successively by 12 mm high-pressure laminate (HPL), plasterboard and a wooden frame filled with mineral wool. The possibility must be excluded of the initial fire causing such intense fire traces through this thermal insulation. The patterns on the walls of the cell are thus of a secondary nature, i.e. caused at a later stage of the fire. Burning sections falling from the wall or ceiling cladding are the most likely possible cause of these fire traces.

The linoleum floor cover on the floor of cell 11 was almost completely destroyed by the fire. The underlying laminated wood material (multiplex) has been burnt more deeply in some places than in others. In the vicinity of the wooden wall cabinet there is a circular burn imprint, close to the entrance on the right-hand side. In most cells, this is the place where the metal waste paper bin was located.

In order to establish to what extent the waste paper bin with burning contents might be the cause of this circular imprint, a similar situation was simulated in a laboratory set-up. The test however revealed that it is impossible that a self-maintaining fire managed to develop in the waste paper bin. Because the bin was enclosed on all sides other than at the top, a fire in the waste paper bin cannot receive fresh air other than through this opening. However, the incoming flow of air in this manner is prevented by the outgoing emission of warm mixture of smoke/air, as a result of which the flames flickered and ultimately died out. Only the ‘fuel’ at the top of the waste paper burnt completely; the other ‘fuel’ remained largely unburned. Thus, the fire in the waste paper bin was short-lived and in this test set-up, in which the waste paper bin was placed half under the wooden wall cabinet, it appeared incapable of causing the cabinet to ignite.

33 V-shaped patterns are common traces of fire on vertical partitions, which are the marks left by the column of combustion gas originating from the seat of a fire. In such cases, the angle of the “V” points in the direction of the seat of the fire.

Figure 11: Far wall on the inside, where cell 11 was situated. The cell has been removed in this picture. To the left of the centre of the picture, the intense burn imprint, which formed next to the bunk bed in the cell, is visible.

To summarize, we can conclude that no relationship with the primary seat of fire can be demonstrated from any of the fire traces in cell 11. The fire traces therefore do not provide any information about how the fire in cell 11 was caused.

4. Cause of fire: concluding summary

The fire broke out in cell 11. Neither the examination of the burnt-out cell nor the fire tests carried out have established whether the cause of the fire was accidental or deliberate.

APPENDIX 5: SMOKE PRODUCTION FROM THE FIRE IN CELL 11

During the cell fire tests, the production of smoke from the burning cell containers was measured using optical measuring equipment which takes into account the specific sensitivity of the human eye to different light frequencies. This smoke measuring system was fitted in the smoke discharge pipes of the laboratory test set-up and measured the total smoke production at some distance from the cell door. The smoke production specified here therefore indicates the results of the measurements derived from this test arrangement. As a result of the afterburning, the other materials that became involved in the fire and the variations in the ventilation conditions, the actual values of the Schiphol fire will differ from those of the cell fire tests. In general, the expectation is that the smoke density in the test arrangement provides a less extreme picture than the actual situation during the Schiphol fire.

Levels of human visibility in a smoke-filled room depend on a number of different factors such as the lighting, the level of diffusion and absorption of the light by the smoke, the wavelength of the light and the visibility of the person in question.
Jin[34] found a correlation between visibility (S) of objects and the extinction coefficient (K):

KS = 8 for light emitting pictograms
KS = 3 for light reflecting pictograms

The extinction coefficient K here is a widely used smoke characteristic which for monochromatic light is defined as:

$$I_\lambda / I_\lambda^\circ = e\text{-}KL$$

I_λ° here is the intensity of the incident light and I_λ the intensity of the light transmitted through path length of smoke L. If we assume that the combustion gasses fill the corridor of K wing (900 m3) at an equal rate[35], the extinction coefficient K can be calculated on the basis of the total smoke production (TSP) measured in the tests.

From the literature[36], it is known that the irritant effect of smoke quickly decreases the acuity of vision when the extinction coefficient K is greater than 0.25 m-1. Figure 1 shows that this level was reached in the third cell fire test in less than a minute after the mattress on the top bunk caught fire (third asterisk on the x-axis). The rapid increase in smoke production is related to the flashover which takes place during this phase, as a result of the combustion heat produced by both mattresses (see appendix 4). The flashover results in all combustible materials in the cell, including the wall, floor and ceiling coverings, contributing to the fire and producing smoke and heat[37]. At this stage, the nature of the burning materials, which at the start of the fire are instrumental in the smoke production, no longer plays a significant role. When the first flames move out of the cell (fourth asterisk), the extinction coefficient has exceeded the irritation value of 0.25 m-1 three times over.

34 Jin, T. (1978) – Fire and Flammability Journal, vol. 9, p. 135.
35 Footage from the surveillance cameras on K Wing and computer simulations showed that the smoke along the ceiling forms a combustion gas layer which reached the end of the corridor in just over a minute. At this point, the smoke reverses direction and flows back towards the seat of the fire under the upper layer of combustion gas. After a few minutes, the corridor is completely filled with smoke.
36 Jin, T and Yamada, T. (1985) – Fire Science and Technology, vol. 5, p.79.
37 NFPA 921 (2004) 5.6.9.

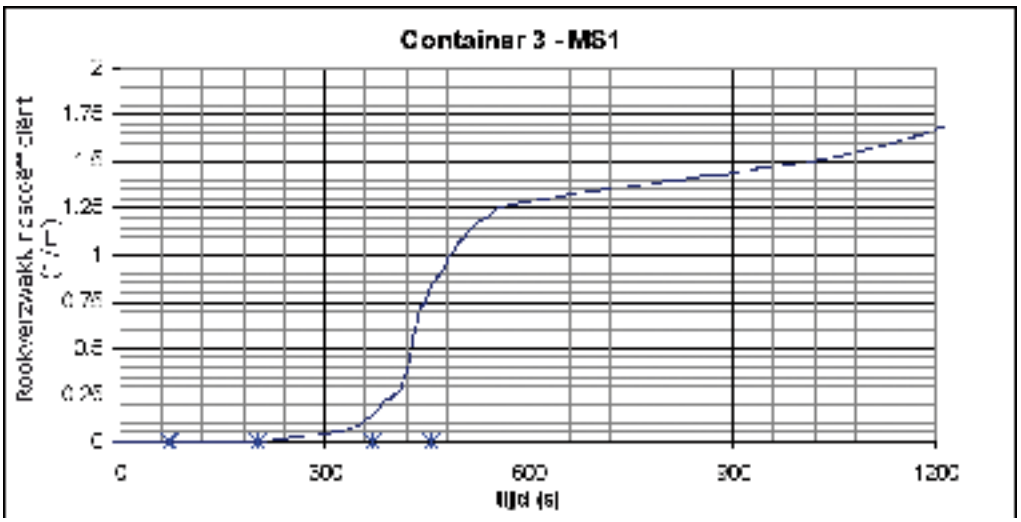


Figure 1: Development of extinction coefficient in cell fire test 3

*1*st *asterisk:* *automatic fire alarm*
*2*nd *asterisk:* *opening of cell door*
*3*rd *asterisk:* *mattress on top bunk ignites*
*4*th *asterisk:* *flames egress through door opening*
The flashover takes place between the 3rd and 4th asterisk.

Likewise, the visibility in the smoke-filled corridor reduces rapidly after the flashover. Figure 2 shows that, at the point when the first flames move out of the burning cell in cell fire test 3, the criterion 'visibility of light-giving pictograms' has decreased to less than 10 metres; for the criterion 'visibility of light-reflecting pictograms', the value has decreased to less than 4 metres. During the Schiphol fire, at the time the flames egress from cell 11 occurred, two of the guards acting to save the cell occupants, were still busy opening the cell doors.
For cell fire tests 1 and 2, visibility became restricted at a faster rate than for cell fire test 3.

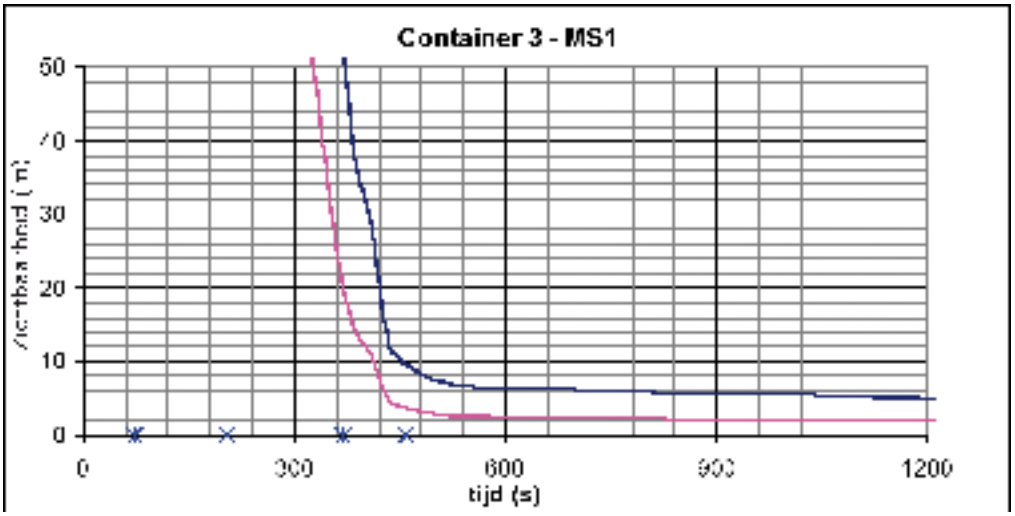


Figure 2: Visibility for light reflecting (pink) and light-giving (blue) pictograms. For explanation of asterisks: see figure 1.

Although these calculations do not take into account the open cell doors, which meant that some of the smoke could disappear into the cells that had been evacuated, the results do clearly demonstrate that the spread of smoke in the corridor seriously impeded any attendance there. The calculations confirm that the statements of the two guards, that the development of smoke rendered it impossible for them to open all of the cell doors on K Wing.

Summary

From witness statements and footage from the surveillance cameras on K Wing, it appeared that smoke production in the corridor prevented rapid and complete evacuation.
On the basis of the smoke production measured during the cell fire tests, a calculation was made of the visibility during the first few minutes after the door to cell 11 had been opened.
From the calculations, it would seem that the visibility depreciated rapidly once the mattress on the top bunk caught fire, after which flashover followed and a drastic acceleration of smoke production occurred. In combination with the toxicity of the smoke, this resulted in an extremely serious situation for those individuals who found themselves in the corridor.

APPENDIX 6: BACKGROUND INFORMATION ON SMOKE AND HEAT EXTRACTION SYSTEM

1. Actual information

The purpose of the Smoke and Heat Extraction system (SHE) in J and K Wing is to extract smoke and heat during the early stages of a fire. For this reason, the SHE is directly connected to the fire alarm system. As soon as the fire alarm is activated, the SHE is designed in such a way that two roof hatches in the corridor of the wing in question open. In addition, regardless of the wing where the fire takes place, the ventilation hatches on either side of the emergency door at the far end of both the J and K Wing are opened.

The SHE is powered by the mains supply (230 Volt) and emergency batteries (24 Volt). Compressed air is used to open the roof hatches in the corridor and for the ventilation hatches at the far end of the wings[38]. To this end, the SHE is also equipped with a compressor with an air receiver. If both the mains supply and the emergency power supply are cut, the system is designed in such a way that the roof and the ventilation hatches open automatically (the fail-safe principle).
The technical components of the SHE (control box, compressor and air receiver) were located in a technical area in the central connecting corridor close to J and K Wing. This technical area was not affected by the fire. A photograph of the SHE (figure 1) may be found below.

Figure 1: SHE control box

38 In addition, the roof hatches were fitted with a back-up system which opens the hatches with the aid of a pressure cartridge at 68°C or more. This relatively high response value, in combination with the speed at which the smoke and fire developed, resulted in the system not having any role in controlling the conditions in the passageway. After the fire, it was discovered that one of the hatches on K Wing was opened by the back-up system.

Three alarms are indicated on the control box:

- Fuse alarm.
- Compressed air pressure (low) alarm.
- 220 Volt mains supply alarm.

There is no voltage alarm for the 24 Volt emergency batteries.

When an alarm is activated, an optical as well as an acoustic signal is emitted. The acoustic signal can be switched off by means of a reset button, but the optical signal remains visible.
When these alarms were activated, both signals and the reset buttons appeared to work properly. However, when the mains supply and/or the compressed air pressure are restored, both signals are deactivated, so it is no longer possible to identify whether there has been any malfunctioning alarm.

There was a sticker in the control box for periodic maintenance, but this had not been filled in.

2. Analysis

From the video footage and witness statements, it can be established that the ventilation hatches at the far end of the wings and the roof hatches in K Wing remained closed after the fire alarm was raised in cell 11. Technical examination of the SHE provided the following findings:

- Since the system had been installed, there was no record of any maintenance carried out on the SHE.
- According to the building regulations, a maintenance check needed to be performed once every year, including a functional inspection of the SHE.
- The SHE was fitted with the wrong type of control valves[39], which meant that the hatches did not open automatically as planned in the event of power failure.
- On the day after the fire, the emergency batteries were found to be completely discharged. One of the two batteries was so dead that the polarity had reversed. The battery chargers appeared not to be matching.
- Independently of the components affected by the fire in the part of K Wing in question, it was not possible to detect any defects to the pneumatic components in the SHE.

3. Conclusions on the basis of the technical examination

The contractor responsible for installing the SHE supplied and fitted the system according to the guidelines for smoke and heat extractor systems[40]. The aforementioned fail-safe principle is not a requirement under these guidelines. The smoke and heat extraction system in question satisfied this requirement of the guidelines. As far as the electrical circuit was concerned, the SHE fail-safe had been carried out, which meant that the hatches in the roof would open in the event of an electrical power failure. Because the wrong control valves had been used, this did not function. All things considered, the fact that the wrong control valves had been fitted represents a finding with serious implications since this cancelled out the fail-safe principle, despite this being a requirement of the guidelines. Since, at the time of the fire alarm, mains supply remained available for a considerable while afterwards, this fact nevertheless does not give us a satisfactory explanation for the SHE hatches remaining closed.
The fully discharged emergency batteries might provide an indication of the fact that the electrical current to the SHE had been disconnected for some time before the fire, for example, because the main switch was turned off. In that event, the SHE would revert to the emergency batteries until these ran empty, after which the hatches would have opened automatically.
Because the wrong type of control valve had been fitted, this did not take place, which meant that the power cut went unnoticed. It is not possible to establish this eventuality with any certainty because the Fire Brigade turned off the electrical switches in the technical area before the technical inspectors arrived.

39 The control valves used were of the "normally closed" type instead of the "normally open" type.
40 NPR 6095 part 1: Guidelines for the design and installation of Smoke and Heat Extraction Systems

4. Analysis of SHE capacity

The Safety Board commissioned the TNO Fire Safety Centre to make a recalculation of the capacity required for the SHE with respect to J and K Wing of the detention centre.
These calculations form the basis for the capacity of the SHE and were carried out by the supplier/contractor responsible for the SHE. These calculations were carried out in conformity with NEN 6093. However, this Dutch standard, referring to fire safety in buildings, does not specify a number of important input parameters. Anyone using this standard will have to choose the input parameters him or herself, including the standard heat release, the standard involved area and the smoke-free height:

- The calculation is carried out with a maximum fire volume of 1.8 m² and a maximum heat release of 0.36 MW (maximum heat release = involved area of 1.8 m² x standard heat release 0.2 MW/m² = 0.36 MW). The extent of this simulation fire, according to the instructions of the supplier/contractor, is based on a so-called "shot cake". This is a rolled-up mattress which is set alight. In a cell, where virtually only the mattress can burn, this is a realistic scenario.
  For the cells in J and K Wing, which have two mattresses and flammable wall panelling, this scenario is extremely tenuous. For such small spaces as these cells, the expectation is that flashover occurs, following which all flammable material in the cell will take light (mattresses, wall panelling, floor covering, clothes, etc.) In this event, the fire surface area is approximately 15m². Such a fire in a cell should be accepted as one of the possible scenarios in calculating the capacity of the Smoke and Heat Extraction System[41].
- To determine the capacity of the Smoke and Heat Extraction System, the criterion set was that the corridor remains smoke-free above a height of 2.1 metres. This value is not normal. Usually (almost invariably nowadays), a stricter criterion of 2.5 metres is used. In the past, 2.1 metres was used along longer corridors, as was the case here. In general, the application of the 2.5 m smoke-free rule as a design principle is necessary in order to bring about safe conditions for escape. In view of the 2.75 m ceiling height, the extremely low design smoke layer density of 0.25 m remains however. Using 2.1 m is therefore understandable on the basis of the desired reliability of the smoke extraction, but on average this will result in poorer escape conditions than desirable.

In addition to the aforementioned aspects, there are a number of comments to be made in the calculation process.

- The extraction openings are required to be ≥1m under the smoke layer, in conformity with NEN6093; the requirement was not met;
- In determining the number of extraction points, it would seem that insufficient account had been taken of the so-called "plug-holing", a mechanism whereby not only smoke, but fresh air is extracted. The consequence of this mechanism is that less smoke is extracted than calculated (according to NEN 6093).

5. SHE capacity: conclusion

In the view of TNO, the type RWA41 smoke and heat extraction system, given the geometry of the cell block wings, did not bring about safe escape conditions. It might be viewed as an equivalent solution simply to compensate for the walking distance of 22.5 metres being exceeded, as long as this is at the right capacity levels. The TNO believes that this was based on tenuous principles, as a result of which the capacity calculated for the SHE in practice is, as expected, inadequate.

The consequence of the SHE being proportioned on the basis of too limited a heat release is that the capacity of SHE was too low by a factor of 3 in relation to the capacity required for the geometry of J and K Wing.

41 Assuming a power density of 0.2MW/m², the maximum fire power is 0.2MW/m² x 15m² = 3MW.

APPENDIX 7: TRAINING OF GUARDS AND SUPERVISORS

1. Introduction

The Detention Centre Schiphol-Oost employs two categories of personnel: those who are employed directly – called "DJI[42] poolers"; and those who are contracted in on a permanent basis from Securicor. Officially, the DJI poolers are called "guards", whilst the Securicor staff is termed "detention supervisors". Technically speaking, the latter do not have any contact with cell occupants. However, in practice, there is no real demarcation and detention supervisors do have some dealings with cell occupants[43].

2. General training of guards ("DJI pooler")

The training programme for guards for special facilities lasts 36 days and is not accredited. The guards who receive this training are called poolers because they are not employed in a specific detention centre, but used flexibly.

Module	Description	Duration (in half days)
Basic self-defence	Self-defence techniques	17
Diversity in communication	Learning styles of communication to maintain the peace and order in the institution	9
Security	Transport of detainees; body searches; visits; headcounts; making reports; integrity	7
Law of criminal procedure	Principles of the law of criminal procedure	7
Penitentiary law	In-house regulations; powers and restrictions	6
Emergency and first-aid	Rescue and fire-fighting skills	5
Reporting	Reporting observations in (disciplinary) reports	5
Dealing with violent situations	Mental and behavioural skills required to prevent the escalation and/or to take control of violent situations	4
Psycho-pathology (introductory)	Knowledge of characteristics, causes and forms of disturbed behaviour; and guidelines for dealing with psychiatric patients	3
Addition-related problems (introductory)	Prevent smuggling of narcotics and knowledge of the properties of these substances.	3
Integrity	Making corruption a subject of discussion and how blurring of moral values can be identified and prevented	2
Penitentiary organisation	Insight into how penitentiary institutions are organised	2
Disasters	Dealing with tensions amongst detainees, colleagues, even after distressing events	1
Infectious diseases	Infectious diseases and procedures to prevent these	1
Total number of half days (36 days)		**72**

Table 1: Training modules for guard for special facilities sometimes referred to as a "DJI-pooler".

The DJI training institute is responsible for organizing all the individual modules for the special facilities and only outsources the training module for emergency and first-aid services. Most modules conclude with a theory test, sometimes accompanied by a practical or physical test. Trainees are only accepted for a position once they have successfully completed the course. Once they start work in a penitentiary institution, the guard receives support from a "mentor", who is a guard with the additional "coaching and support" qualification.

42 Custodial Institutions Service
43 Boer, Van den Bosch & Janssen, 2006.

3. Emergency and First Aid: training programme for guards

In the training programme for guards, dealing with fire forms part of the Emergency and First Aid services. The instructors are qualified fire fighters or fire officers (with at least a leading fire-fighter's certificate[44]), but, apart from an introductory session, the latter are not familiar with the prison system.

The book "Basisopleiding bedrijfshulpverlener[45]", published by the Dutch Institute for In-house Emergency and First-Aid[46] (NIBHV, 2005) provides the basic guidelines for this training programme. The Emergency and First-Aid training consists of the modules listed in table 2.

Lesson	Description	Duration
First Aid	Broken bones, shock, burns, loss of blood, etc.	
Communication	Reporting incidents (internal/external); front desk; means of communication	
Fire outbreak	Fire triangle, fire extinguishing, fire extinguishers, hazardous substances	
Evacuation	Evacuation plan, escape routes, emergency lighting, lifts	
Total no. of days		5 half-days

Table 2: Contents of the Emergency and First-Aid Training for guards ("DJI poolers")

As the name "Emergency and First-Aid" suggests, this is a general training course which is not geared up to specific organizations or locations. However, in order to acquaint course participants with procedures specific to penitentiary institutions, the DJI training institute gave four sheets to the Ajax[47] company in 2001. The sheets provided instructions to be followed in the following situations:

- (opening of cell doors) door procedure
- fire in cell
- (evacuation to) assembly area

Door procedure	**Fire in cell**
Open door • open door bolt, take keys out immediately • bring detainee to safe place or have prison warder do this If door is open (with bolt facing outwards) during the evacuation, the cell has been checked and is empty ***Never leave the door lock snibbed!***	**What you should do** • Try to have two people extinguish the fire • Fire with little smoke - smash fire alarm - bring detainee to safety • Fire with lots of smoke - smash fire alarm - set fire hose to sprinkler setting in hatch - keep cell door closed, warn superiors - evacuate other cells horizontally

The module 'Containing and controlling the outbreak of fire: extinguishing', comprises instructions with respect to the opening (or not) of doors. One of the sheets illustrated here refers to penitentiary institutions and the fact that, in fire situations where lots of smoke develops, cell doors should be kept closed. The instructions in the NIBHV book 'Basisopleiding Bedrijfshulpverlener', published in 2005 is more comprehensive and relates to general instructions which are not specific to any particular organization of location. The instructions in the training manual have been included below (NIBHV, 2005):

44 Rijksdiploma onderbrandmeester
45 Available in English as "Emergency Response Team - Basic Training"
46 Nederlands Instituut voor Bedrijfshulpverlening
47 This company specialises in emergency and first-aid courses.

"If you suspect a fire behind a closed door, do not open the door as you would normally. […] If you can feel heat through the door, assume that there is a fire. If there is a fire (the door and/or the door handle is/are hot), as the in-house emergency and first-aid worker you must prevent the fire from spreading. What should you do?

1 Keep the door closed.
2 Warn everyone in the vicinity.
3 Alert the emergency control room.
4 Fetch a fire hose or extinguisher.
5 Return to the door with a colleague.

If you do not feel any heat up against the door or on the door handle, (or you return with an extinguisher after sounding the alarm), open the door carefully. When opening the door, there might be a burst of flame which starts to lick around the cracks at the top and bottom of the door. If you take cover and bend down in the right manner, you will minimize the risk of injury (because any jets of flame will not come towards you). Open the door in the following fashion.

- *First, find out where the door hinges are.*
- *If they are on your side of the door, the door will open towards you. Kneel down next to the door on the side where the hinges are situated (see illustration in course manual). As a consequence of the overpressure possible in the space on the other side of the door, hold back the door with your foot.*
- *If the hinges are on the inside, this means that the door opens away from you. In this instance, take up a crouched position on the side of the door handle.*
- *Then, open the door slightly, but keep hold of the door handle.*

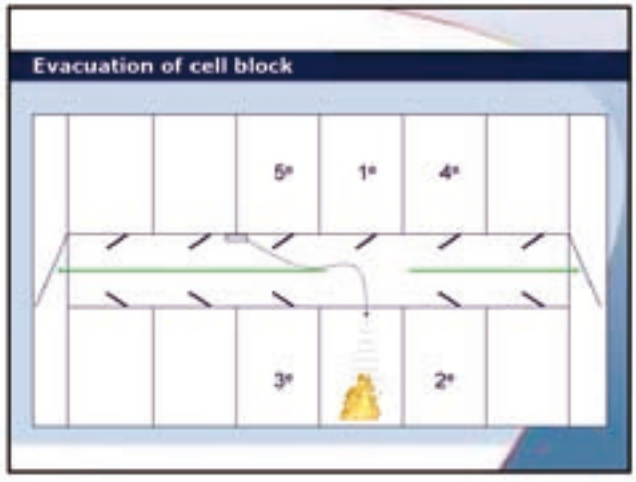
There are several options after opening the door.

- *If you see that the room on the other side of the door is full of smoke and is alight, call out to see if anyone is inside, close the door and evacuate the immediate vicinity.*
- *If you see no fire, but the space is full of smoke, call out to see if anyone is inside. Do not go into the room your self and close the door as quickly as possible.*
- *If no fire is visible or the fire has just started and there is little smoke, try to put out the fire with the extinguisher. Take care for any scorching or smouldering. Ensure that smoke is not able to spread.*

Students follow the in-house emergency and first-aid course in groups of 10 to 15 persons. Most of this is theory; practices are for:

- *rescue work: recognising and acting in the event of someone becoming unconscious;*
- *breathing;*
- *fire fighting: extinguishing a waste paper bin, a monitor, wrapping burning individuals (=dummy) in a fire blanket."*

The practices consist of a demonstration plus an explanation. Course participants then practice the procedure themselves. On conclusion, the participants are given a multiple-choice test. The test is not taken or marked by Ajax, but by the NIBHV.



Assembly area

- When evacuating a cell block, the assembly area can be decided on there and then
  - go to the next smoke-free compartment
  - outside area
  - sport unit
- In the event of complete evacuation, the assembly area has been designated in the evacuation plan
  - usually the adjacent unit
- In the event of prolonged evacuation, arrange an alternative.

4. Training of detention supervisors (Securicor)

No prior qualifications are required for the position of detention supervisor. Candidates are given an introductory session and a job interview. This determines whether the candidate is suitable for the job or not. Candidates selected are then registered for the detention supervisor training course at the DJI training institute. This course lasts 7 days and does have a specific module dealing with how to act in the event of fire.
Table 3 lists the modules.

Module	Description	Duration
Communication and controlling aggression	Conversational techniques, dealing with aggression	7
Security	Locking and unlocking cells; body and clothes searches and visits; cell inspection; use of equipment	4
Integrity	Knowledge of undesirable and unacceptable behaviour; identification of risk factors; prevention of blurring of moral values.	1
Law and order	Knowing rights and obligations with respect to emergency measures or being able to seek these out	1
Reporting	Observing and reporting on the behaviour of detainees and visitors	1
Total no. of half days		14

Table 3: Training modules for the detention supervisor training course

On completion of the course, there is no test, participation is sufficient. The detention supervisor will then start work in an institution under the wings of a mentor. The detention supervisor works for one year on a valid "green pass".
In that first year, the detention supervisor needs to successfully complete the "Guard 2" training. The study load is about 10 hours a week for 14 weeks, i.e. approximately 140 hours.

5. "Guard 2" and Emergency and First-Aid aspects of the detention supervisor training

When detention supervisors take the "Guard 2" training course in the first year, aspects of how to act in the event of fire and in accordance with a safety plan are dealt with in the "Security of buildings and property" module[48]. The material is exclusively theoretical; there are no practical classes. The following life-saving aspects are not dealt with: first-aid, identifying and how to act in the event of unconsciousness and breathing difficulties. In addition to the "Guard 2" training, detention supervisors follow an emergency and first-aid course in their first year which is similar to the emergency and first-aid training course followed by guards[49].

Description	Duration
Working within the legal framework	2
Security of buildings and property	2
Safety network	2
Communication	2
Social and cultural training	2
Use of ICT	2
Total * approx. 10 hrs per week (≈120 hrs)	12

Table 4: Training modules for the "Guard 2" course.

48 *Beveiliging van gebouwen en eigendommen.* See http://www.ecabo.nl/files/kwal2003/cbe08.2.pdf for a summary of learning goals (in Dutch)
49 Boer, Van den Bosch & Janssen, 2006.

APPENDIX 8: DETENTION CENTRE ACCESSIBILITY CARD

HARLEMMERMEER FIRE SERVICES ACCESSIBILITY CARD	1-5106

Details of object			
Name and function of object	Schiphol Cell Complex	Penitentiary institution	
Address and telephone number	Ten Pol 64 Oude Meer Tel: 020		
Address for keys	N/A Fire Services will be met at access fence no. 1 by the Emergency and First-Aid worker (see drawing). From April 2004 access gate no. 2 is also in operation. The Emergency and First Aid worker will give the commander a portaphone and escort the fire services to the location of the incident. The Emergency and First Aid worker also has a skeleton key for all doors.		
Access route	Via Fokkerweg		
Access route for other vehicles			
Key box	N/A 24/7 Surveillance		
Fire Services Panel	Fire alarm centres on each wing		
Water sources	4 underground fire hydrants on site (see drawing) Complex has a dry sprinkler system (see drawing)		
Emergency plan	Available		
Compartmentalisation	Yes, per wing	No. storeys	1

Description of persons on site			
Name	**Number & time**	**Validity**	**Location in object**
Detainees Surveillance personnel	Max. 206, 24 hrs. a day Max. 50 during day Max. 12 evening/night		In cells

Description of any hazardous substances present		
Number & name	**Quantity and condition**	**Location in object**
None		

Cut offs/switches	
Gas stop cock	See drawing
Electric mains switch	Per wing: in control box
Central Heating switch	Electric heating throughout except on wings J and K
Ventilation switch	N/A
Water stop cock	Per wing: in control box

Additional information
Each wing has its own fire alarm centre and surveillance (24/7) Contact person: (24/7) In principle, the fire services can only gain access to the wings when these have been evacuated Deportation centre and accompanying cells have been in use since April 2004. From that date onwards, the temporary fencing (in red) has been removed Cell complex has a Smoke and Heat Exhaust ventilation system (in wings j and K this can also be operated manually)
Date of Accessibility Card: 22-12-2003

Figure 1: Page 1 of the accessibility card as found at Post Sloten in the TS 641 on 15-12-2005. The telephone number of the Detention Centre and the name and the mobile number of the contact person have been deleted.

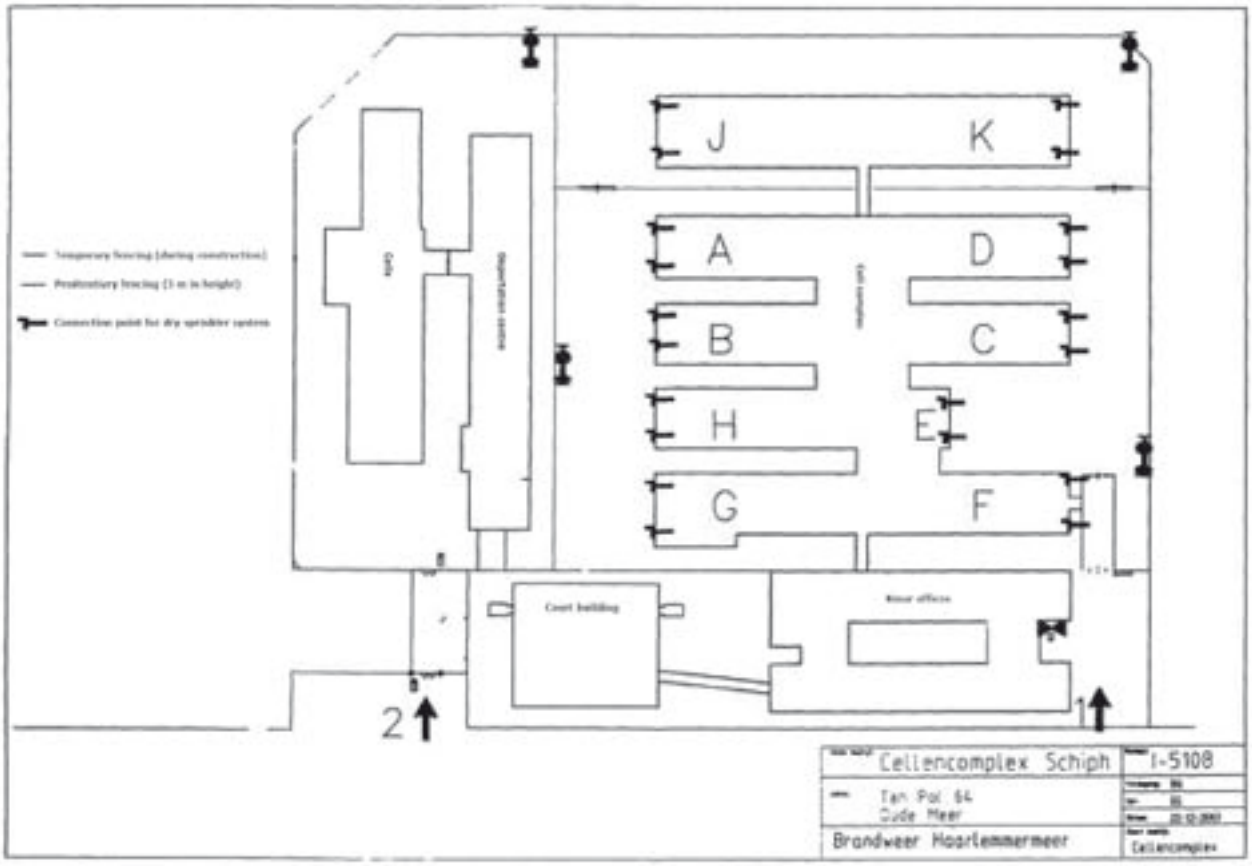


Figure 2: Page 2 of the accessibility card as found at the Post Sloten in the TS 641 on 15-12-2005.

APPENDIX 9 FOLLOW UP OF RECOMMENDATIONS OF NIBRA[50] AND TAC[51]

1. Timeline of tests and investigations

November 2002

- In November 2002, at the request of Government Buildings Agency (RGD), the TNO Centre for Fire Safety performed a test on the fire safety characteristics of the cell container as used in A to H Wing and J Wing. The test results were published in a TNO report. At almost the same time as this test report was published, a fire broke out in this kind of cell (on C Wing) on 30 November 2002. The cells where the fire broke out were not in use at the time. In the report, TNO concludes that the cell undergoing the test, by itself, satisfied the statutory requirements with respect to fire movement (WBDBO[52]).

December 2002

- After the fire in 2002, the Nibra, as it was then known, published a report under the auspices of the Haarlemmermeer Fire Brigade, which also contained a number of recommendations. The conclusion was that, according to Nibra, the building did not meet the statutory requirements in a number of crucial areas (architectural) (see Section 7.4.3). Proposals, relating to the technical system, were presented which in Nibra's opinion were equivalent. However, it was up to the Municipality, in Nibra's view, to assess whether these solutions were indeed equivalent.

January 2003

- In turn, the RGD asked the TAC to evaluate the fire safety of the Detention Centre Schiphol-Oost and to indicate to what extent the statutory requirements were being met. The recommendations of the Nibra were not taken into account here. On 20 January 2003, the TAC reported to the RGD on the matter. TAC shared the same conclusion reached by the Nibra "that the building still needed some adaptations". So, for that reason, the report made proposals with respect to essential components which might bring about an "equivalent" level of safety.

April 2003

- Later, in April 2003, TNO tested a similar type of cell container as used on K Wing in the same way as the cell test carried out in November 2002. Again the conclusion was that that the cell, by itself, satisfied the statutory requirements as far as fire movement was concerned (WBDBO)[53].

2. Available test reports for cell containers

The TNO test report states that a specific test arrangement was used and the test results relate to the fire resistance of the cell containers. The conclusion of the test report with respect to fire movement is *'That resistance to fire movement through the window openings in the rear wall to the adjacent cells is at least thirty minutes'.* The conclusions in the test report are valid under the pre-condition that the cells 'are horizontally positioned and not placed on top of each other'. Cells were not placed on top of each other at the detention centre, but, in order to attach value to this conclusion and to make a reliable judgement with respect to the fire safety of the whole wing, the shell construction (tropical roof) must be included in the evaluation, which was not in fact part of the TNO's remit, so this was not done.

50 Netherlands Institute for Fire Services and Disaster Management
51 Technical Advice Centre
52 Resistance to fire movement (NEN)
53 February 2006 *As part of the current investigation, the Safety Board tested construction components of cell containers from K Wing for fire resistance in compliance with NEN 6069. In contrast to the aforementioned test results by TNO, the Safety Board concluded that the fire movement characteristics (WBDBO) of at least the door and window construction did not meet the statutory requirements.

3. Follow-up of Nibra report

Nibra published a report of the investigation into the fire in C Wing of the detention centre which occurred on 30 November 2002. Nibra's recommendations concerned those aspects which are highlighted in italics below (insofar as these are also relevant for J and K Wing), also indicating whether these recommendations were in fact acted upon:

- *"The fire resistance between the cell and the void must amount to 30 minutes at the point of the technical shaft (where the shaft, in terms of compartmentalization can belong to the cell as well as the void, but preferably to the cell");*
  For J and K Wing, where the air extraction to the void took place directly from the cell (shower), this requirement was not satisfied.

- *"The air supply (ventilation) must be changed so that this is not influenced by fire for 30 minutes;*
  For J and K Wing, where the supply of air takes place directly from the cell (shower) to the duct in the void, this requirement was not met.

- *"The fire resistance between the technical shaft and the corridor must be 30 minutes";*
  The fire resistance requirements (WBDBO) from the door of the technical shaft was ascertained by the Safety Board as being 9 minutes, so this requirement was not satisfied.

- *"Use of alarms in void";*
  This was carried out in J and K Wing.

- *"One of the following three requirements must be satisfied:*

a. *The fire resistance requirements (WBDBO) of the partition construction between the voids and the circulation room must be 30 minutes";*
   This fire resistance requirement was not satisfied for J and K Wing.

b. *"The materials in the voids must meet the requirements of class 1 and 5.4 m-1";*
   This requirement was not satisfied.

c. *"Installation of automatic fire extinguishers in voids, preferably as foam extinguisher system."*
   This requirement was not met. An extinguisher system was indeed installed. However, this was a dry system which only worked when the fire services' fire hoses were connected.

- *"A simple heat discharge system is desirable in the voids";*
  This was not in place.

- *"Clear construction drawings and a test report with respect to the fire resistant characteristics of the cells are necessary";*
  There is still a lack of clarity in the drawings for J and K Wing, for example, with respect to the fire-resistant compartmentalization.

- *"A schedule of requirements and certification is necessary for fire alarm system";*
  Neither of these requirements was met.

- *"Clear construction drawings and a test report with respect to the fire resistant characteristics of the cells are necessary";*
  There is still a lack of clarity in the drawings for J and K Wing, for example, with respect to the fire-resistant compartmentalization.

4. Follow-up of TAC report

In response to the Nibra report, the TAC was asked by the RGD to make an assessment of the fire safety of the Detention Centre Schiphol-Oost and to give an indication as to what extent the statutory requirements had been met. The recommendations of the Nibra were also taken

into account. The TAC presented a report to the RGD on the matter on 20 January 2003. It is noteworthy that the TAC, with respect to Nibra's recommendations, states that these are recommendations and not requirements, *"with the exception of the statement in conformity with the Building Decree".* TAC then proposes the following measures (included here insofar as these are also relevant for the situation on J and K Wing):

- *"Fire compartments: A cell must be based on the fire resistance requirements (WBDBO) of 30 minutes. This requirement, according to TAC, will be satisfied after the additional sealing of the recesses in the lead-through between the shaft and the void with mineral wool or fire resistant PUR";*
  This requirement has still partly not been satisfied, but the floor and ceiling recesses of all meter boxes have been sealed with fire-resistant material by the contractor on the request of the RGD.

- *"Materials: The conclusion is that the HPL panels used meet the requirements of class 2 of NEN 6065";*
  Tests have been carried out on the basis of the European EN 13501 standard. The flame spread class of the HPL panels is B. This is the best class after class A (non-combustible). EN 13501-1 class B, on average, is better than NEN 6065 class 2.

- *"Fire Alarm System: voids do not need to be fitted with alarms, in view of NEN 2535 and the subordinate volume of materials in the said void space in relation to the fuel load";*
  This is correct according to NEN 2535, but the Nibra demanded these alarms in the framework of equivalence; the need for the alarms cannot be tested due to the lack of a reason for the recommendation in the Nibra report for the Safety Board.

- *"Extinguisher system in voids above cells;*
  It would seem that TAC does not feel entry to these voids or the extinguisher system necessary because the chance of victims is no greater than is intended with the regulations. The TAC indicates as a recommendation, but not as a necessity, the following: *"installation of a dry extinguisher pipe and detection in the voids"*.

- The TAC indicates as a recommendation, but not as a necessity, the following: *"installation of a dry extinguisher pipe and detection in the voids";*
  In view of the point in time at which the dry extinguisher pipe is operational, the TAC, for the functioning of the fire extinguisher system, has not thought of limiting the spread of a fire at an early stage.

- *"Independently of the fact that the Trespa wall lining can satisfy the requirements, the material cannot be described as non-combustible in a sustained fire. During the test at TNO referred to earlier, the assumption must be that, partly due to the Trespa wall lining, health-threatening, possibly toxic gasses are released. We consider it therefore important that qualified staff must be able to bring about evacuation in the event of fire by wearing compressed air masks. This is for their own safety as well as that of the detainees";*
  This advice was not heeded.

APPENDIX 10 THE SUPERVISORY COMMITTEE FOR DISTRICT DETENTION PLACES ROYAL MILITAIRY CONSTABULARY SCHIPHOL

On 4 September 2000, the Minister of Defence established the Regulations for the supervisory committee for district detention places under the Royal Military Constabulary (KMar). At the end of November that same year, the committee commenced its supervisory tasks. The job of the committee is to oversee the housing, safety, care and treatment of inmates in detention centres under the authority of the KMar, district Schiphol.
At the beginning of 2004, the committee drew up a report for the period from November 2000 to December 2003. The acting chairman[54] of the committee, Mr J. Siepel, presented his report to the Minster of Defence (Kamp) and the Minister for Aliens and Integration (Verdonk).

The report stated that, from the beginning of 2003, the Detention Centre Schiphol-Oost had been taken into use and that the complex contained police cells. The committee was responsible for overseeing these cells (48 of these). The complex however, also contained 'detention cells for aliens' and detention places for drugs couriers. Another supervisory committee was responsible for these cells. This was under the charge of C. Petiet and was established by the Ministry of Justice[55]. Both committees regularly met to discuss the division of tasks. The report stated that the new situation (i.e. the detention centre) would probably lead to a change in the supervisory regulations because it was not efficient for two committees to be in charge of supervisory tasks within a single complex.

The sources for standards on which the commission based it findings were specified:

- The European Convention on Human Rights;
- The International Bill of Human Rights;
- The "Body of Principles for the Protection of All Persons under Any Form of Detention or Imprisonment", resolution 43/173 of the General Assembly of the United Nations of 9 December 1988;
- The European Prison Rules of the Council of Europe, recommendation R (87)3 of the Committee of Ministers of the Council of Europe on 12 February 1987.

The last two sources referred contain basic principles for e.g. medical treatment, methods of detention, registration obligations, provision of information, legal aid, visits, hygiene, medical examinations, recreation, supervision and handling of complaints.

Important to the organization of detention centres are the Police Detention Centre Regulations. These regulations contain requirements for the lay-out of cells.

The report revealed that, in 2003, the committee visited the Detention Centre Schiphol-Oost on five occasions. During the entire reporting period (2001-2003), the committee paid 100 visits to the detention cells at Schiphol. In view of the fact that J and K Wing were, according to the Municipality, only ready for use on 3 December 2003, it can be assumed that the 5 visits made by the committee related to the original complex, that is, A to H Wing.

The most important conclusion that is drawn by the committee in respect of the detention centre is the following: "Fire prevention is a source of concern". The committee also identified the lack of transparency in the division of responsibilities between the Ministry of Justice and the Ministry of Defence on the shop floor.

54 The chairman, Mr F. Olde Rikkert, died on 17 March 2003
55 This committee was set up on the basis of article 5a of the Provisional Act Emergency Capacity for Drugs Swallowers and on the basis of the decree of 11 September 2003 on the basis of article 10 of the Border Holding Area Regime Regulations also appointed to supervise the cells at Schiphol-Oost allocated on the basis of Art. 6, par. 2, of the 2000 Aliens Act for the detention of aliens.

The findings per object were summarized in an appendix to this report. For the Detention Centre Schiphol-Oost, the most important observations were the following:

- The ratio of cells between prisoners and detainees (i.e. those passing through) is not what was originally agreed on. During the construction phase, communication between KMar, the Custodial Institutions Service (DJI) and the Immigration and Naturalisation Service (IND) was poor.
- The lay-out of the building is not practical in many respects; KMar staff blame this on the lack of liaison between users of the building and the architect.
- The climate control is inadequate and ventilation not ideal.
- Fire prevention is unacceptable: the staff is not aware of any evacuation plan, no drills have been carried out and there is no central door-release system for cells.

As already stated, the committee presented the report to the Minister of Defence on 26 April 2004. The minister responded by letter on 5 July 2004. Referring to the detention centre, the minister wrote, "the cells meet all requirements set and will fall under the responsibility of the DJI as from 1 April 2004." In the internal memorandum sent by the Director of Legal Affairs to the Minister of Defence, it was explicitly stated that the Fire Brigade issued an occupancy permit on 15 April 2003 and that the complex met all the requirements in the field of fire prevention. This fact was not included in the letter from the minister to the committee.
The report by the Committee into facts surrounding deportations to the Democratic Republic of Congo (also referred to as the Havermans Commission) reveals that, from the moment the aforementioned report was published, the Siepel Committee led a dormant existence and was withdrawn in 2005. From 2004, the tasks were assumed by the aforementioned Petiet Committee.

APPENDIX 11 NOTES ON EMERGENCY DOOR AT THE FAR END OF K WING

A door is situated at the far end of K Wing. During the evaluation of the construction plan this would naturally be considered to have functioned as an emergency exit, in the framework of the Building Decree, but it did not serve any purpose during the evacuation and was not connected to the fire alarm system. Three aspects are briefly considered here:

1 In a formal context, the door at the far end of the wing was not assigned the status of an exit, the starting point for an escape route. This was because a smoke-free escape route must lead to another fire compartment, in line with article 2.161-3 of the 2003 Building Decree (Section 2.18). For uses other than cells, article 2.161 states that a smoke-free escape route must eventually lead to a public highway. The 2003 Building Decree explains that, in the case of cells, it is not desirable for an escape route to reach a public highway without obstacles, so for this reason, the escape route needs to lead to (another) fire compartment and no further. On the basis of this article, these wings only had one exit, and these were the exits to the central corridor.

2 From the events surrounding the fire, it can be concluded that evacuation took place in accordance with the requirements of the Building Decree. During the fire, the detainee in the burning cell was not taken to this, the closest emergency door in the danger zone, even though this was close to the cell. The detainee was taken to the central corridor instead. In addition, according to the evacuation plans, evacuation through this door is not part of the procedure; evacuation takes place via the central entry door to another wing (i.e. fire compartment). If the door at the far end of the wing had led to another fire compartment or to an equivalent solution, this door could have been used both in the evacuation plan and during the fire. If the occupant of cell 11 had been evacuated via this door, this would have saved time, because he would not have first had to negotiate the whole length of the corridor (>45 meter). This would have meant a reduction in the evacuation time and the emergency door would have functioned as intended.

3 Once it was clear that, after sounding the manual fire alarm, cell occupants could access the area outside through this door, the door release system was disconnected from the fire alarm system, according to the instructions of the DJI. This meant that in the event of fire there was no automatic door release. It was true of course, that, according to the Building Decree, this door had no status, but from the design and evaluation of the wing and the way in which the door was released by the fire alarm system, it appears that the door was considered to be an emergency door by the various parties. Reasoning along these lines, disconnection required permission in writing from the Fire Brigade (this has still not been obtained). As an organizational measure, the key to this emergency door was given to the departmental heads, the Duty Officer and the Switchboard[56].

56 Source: Ministry of Justice

APPENDIX 12 EQUIVALENCE IN THE 2003 BUILDING DECREE

1. Introduction

The 2003 Building Decree (hereinafter referred to simply as the Building Decree) specifies per section (subject) what the objective of the regulations entails with respect to the section in question.

Example:

- Section*: "Section 2.13 Containing the spread of fire".*
- *Objective: "Art. 2.103-1 A building must be constructed in such a way that the spread of fire can be adequately contained".*

In each section, the Building Decree lists a set of so-called performance requirements (regulations) for the intended purpose. The Building Decree specifies that the objective referred to has been satisfied if this set of performance requirements has likewise been satisfied. The performance requirements are quantifiable requirements.

Example:

- *"Art. 2.103-2 Insofar as regulations apply for an intended use listed in table 2.103, for this intended use the requirement referred to in par. 1 is satisfied by application of these regulations" (regulations here are understood to be performance requirements)*
- *From table 2.103 therefore, it follows that for a warehouse (intended use = industrial) article 2.105 par. 4 applies.*
- *Performance requirement: 2.105-4 A fire compartment (for industrial purposes) has a surface area that is no greater than 1000m².*

The 'easiest' way to ensure that a building meets the requirements of the Building Decree is to ensure that all performance requirements applicable to the intended purpose of the building are satisfied. In some cases however, these 'rigid' requirements stand in the way of the efficient use of the building or innovative solutions.

Example:

- *The owner of a warehouse needs 3000m² of space and wishes to use fork-lift trucks freely, so that it would be extremely inconvenient if his warehouse were to be partitioned into 3 compartments of 1000m² each by fire doors and partition walls.*

In addition to performance requirements, the Building Decree therefore introduces the concept of equivalence in the so-called 'equivalence article' (Art. 1.5). In short, the provision enables another solution to be found other than the application of the performance requirements, as long as the new solution leads to the same result/the same level of (fire) safety as the performance requirement.

2. The Equivalence article in the 2003 Building Decree

- *"Art. 1.5 Equivalence article*
  A regulation, specified in chapters two to six inclusive, that must be applied to meet a requirement relating to a building part thereof, does not have to be satisfied, insofar as, if the regulation is not applied, the building or part thereof offers at least the same level of safety, protection to health, functionality, energy-saving capacity and protection to the environment as intended by the regulation in question."

If a decision is made to invoke equivalence, the person requesting the permit must demonstrate to the Municipal Executive that the deviating solution meets the objective of the performance requirements. This means that:

- it must be clear in the application for the building permit in what way the building plans differ from the performance requirements specified;
- an indication must be made of the way in which the building plans, with respect to this deviation, satisfy the regulations in his/her view;
- if considerations taken from other sections of the decree (i.e. other than the section applicable for the performance requirement in question) are necessitated in the performance requirement, these considerations are also equivalent in the evaluation of the solution, these must also be taken into account.

Example:

- *The owner of a factory (in this instance also the person applying for the building permit) realizes that the required 3000m² does not meet the performance requirement in accordance with article 2.105-4 of the Building Decree.*
- *One of the aims of this performance requirement is to ensure that rapid spread of fire is prevented. By installing an adequate sprinkler system the owner satisfies the objective of the performance requirement.*
- *The owner must likewise check to determine whether the excessive size of the compartments does not lead to other problems, for example, with respect to escape routes. However, this does not appear to be the case, whereupon which, on the basis of the Equivalence Article, the building plans meet the requirements of the Building Decree.*

APPENDIX 13 DIFFERENCES BETWEEN CONSTRUCTION DRAWINGS FOR J AND K WING (AS PART OF THE BUILDING PERMIT) AND THE ACTUAL SITUATION[57]

Construction drawing	Actual situation
On J and K Wings, 2 types of cell used alternately	On J Wing only one type of cell was used, and on K Wing only the other type
On K Wing, 12 intermediate doors between 2 doors were drawn (in total 24 cells). 2 cells were for solitary confinement	On J and K Wings, cells are for solitary confinement.
The interior of the cells is indicated on the drawing	The interior of the cells differs from the drawing
Four SHE hatches have been drawn per wing on J and K Wings	Two SHE hatches were fitted on J and K Wings
All cells of both types were drawn with 2 windows	Cells on K Wing only have one window
On the elevation view of the outer shell, for all cells and other spaces per cell/other space, one large opening has been drawn which in terms of size contains both windows drawn per cell/other space.	For the one type of cell (used on J Wing) and other spaces (both J and K) two openings were created at the height of the windows in the outer shell. For the other type of cell (K Wing) this is a single opening at the height of the window.
On the front and rear walls of J and K Wings, six hatches have been drawn per wall (three per wing) above the cells in the outer shell. The first between planning grid 2 and 3, the second between planning grid 11 and 12, the third between 19 and 20, the fourth between 23 and 24, the fifth between 31 and 32 and the sixth between 40 and 41.	In the front and rear walls six hatches (three per wing) were inserted above the cells in the outer shell. Other than what may be seen in the drawing however, the first and the sixth were placed between a different planning grid, that is, the first between 3 and 4 and the sixth between 39 and 40.
On the cross-sectional drawing in the space above the cells, the "dry sprinkler system and smoke alarms" are indicated. In the other (left-hand) space, these have not been indicated.	In both spaces above the cells a dry sprinkler system was fitted with smoke alarms.
For both J and K Wing, three grills have been indicated for the SHE on the far end walls next to the emergency door on either side. The grills are indicated at the bottom of the door.	For both J and K Wings, two grills were fitted for the purposes of the SHE on the far end wall next to the emergency door on either side. These were fitted above the door. Between the two grills on either side there is a window. So, from left to right, grill-window-grill-emergency door-grill-window-grill.
Tie-rods are indicated on the front and rear walls.	The tie-rods on the front of K Wing were removed as a result of the construction of a basketball pitch between K and D Wings.
The number of the rooms is indicated on the drawing.	Difference in the number of the rooms (cells) on the drawing and the number of the cells on the wings (possible cause of confusion).
Lowered ceiling runs partly above the cell.	Lowered ceiling stops where HPL panels meet above the cell door.
Penitentiary fencing between J-K and A-D	Between J-K Wings and A-D Wings there is no fencing
On the drawing, the plenary area is interrupted above one of the two rows of cells in a longitudinal direction (with the name "open space" in the plenary area).	The plenary area is not interrupted in the longitudinal direction.
On the drawing it says "cells 30 minutes non-self-closing other fire resistance 30 minutes self-closing"	The ventilation ducts (fire sleeves) in the ceiling of the cells were not designed for fire-resistance of 30 minutes. The team desk, activities and recreation room were not designed for fire-resistance of 30 minutes due to the manner in which the ceiling and the space above it were built (the fire-resistant walls do not run up to the roof).

57 On J Wing, one cell was constructed which was the same type as used on K Wing.

APPENDIX 14 PSYCHOLOGICAL AND HEALTH PROBLEMS FOLLOWING A DISASTER

1. Introduction

In general, individuals are able to cope with traumatic events and after a while, resume their lives again[58]. Most individuals involved in a disaster experience a stress reaction for several days or weeks afterwards. These reactions are natural and involve emotions such as anxiety, sadness, anger, indignation and guilt, shame and hopelessness. People can feel numbed, lose their interest and enjoyment in everyday life and suffer from lack of concentration or forgetfulness. They may worry unnecessarily, suffer from nightmares, and have flashbacks or intense memories of the event. Likewise, the body can also react to having experienced a disaster, as a result of which tension, fatigue, sleep disorders or pain may arise[59]. Individuals generally recover in their own way and in their own time, but in general, it can be said that these reactions tail off and/or disappear during the first four weeks.

Risk factors that may lead to the development of trauma-related (psychological) problems are a previous record of psychiatric problems[60] and experience of traumatic events in the past. A disaster may trigger previous traumatic experiences or exacerbate the problems. Other aspects, such as the seriousness of the event, the psychological reaction to it, the degree of danger to life posed, the lack of social support, and additional 'lifestyle' stress all form risk factors in the development of trauma-related problems[61].

Most people involved in a disaster do not develop long-term health and/or psychological problems. However, a small group of people do retain health and/or psychological problems, such as inexplicable physical disorders, anxiety, depression and post-traumatic stress disorder (PTSD)[62].

2. The consequences of disasters for refugees and asylum seekers and illegal immigrants

So far, little research has been carried out into the psychological consequences of disasters for specific groups such as refugees, asylum seekers and illegal immigrants. In general, ethnic minorities or immigrants, including refugees, asylum seekers and illegal immigrants are seen as a high-risk group in the development of mental health problems after traumatic events[63].

Language and cultural differences between victims on the one hand, and relief workers and agencies on the other, throw up barriers between both groups, both at the time of the disaster and in the acute phase that follows. This means that fewer individuals get referred for treatment[64] and the available care is rendered less effective[65].

In addition, refugees, asylum seekers and illegal immigrants are far removed from their own familiar culture, which is an important source for acquiring the rituals and the social support in the event of such intense incidents[66]. Their vulnerability is further exacerbated as a result of language barriers.

58 Gersons & Olff, 2005; Bryant, 2005.
59 Impact, 2005.
60 Not only the previous psychological history of the individual involved, but also that of relatives, also forms a risk factor.
61 Ozer, 2003; Brewin, 2000.
62 Post-traumatic stress disorder (PTSD) occurs when someone has undergone a traumatic incident and when a certain combination of physical and psychological phenomena does not disappear a month after the event or if the phenomena start again much later.
Three categories of phenomena are typical for PTSD: re-experience, evasion and irritability.
63 See: Fothergill et al., 1999; 2000; Norris et al., 2002; Kinzie et al., 2002; Perilla et al., 2002.
64 Bischoff et al., 2003.
65 See: Kurt et al., 1999; Hoogsteder, 2004; Ng, 2005; Netten, 2005.
66 De Vries, 1996.

In addition, the limited access to economic and social resources (family and friends often remain in the land of origin) has an effect on their ability to find and use the after-care which is available[67]. Culture–specific attitudes and ideas can also have an influence on their behaviour when seeking help, and the way in which they are able to deal with stress and traumas[68].

Asylum seekers (i.e. those who have no residential status) report more symptoms of anxiety, depression and PTSD than refugees (i.e. those with residential status)[69]. PTSD is more often diagnosed amongst asylum seekers than among refugees[70]. However, when it comes to the health of refugees and asylum seekers, care should be taken to avoid focussing solely on PTSD. Sometimes, PTSD is incorrectly diagnosed for refugees and asylum seekers, whilst other psychiatric problems may be at play[71]. Although many medical problems are reported among refugees and asylum seekers, the number of individuals for whom PTSD is diagnosed, even after traumatic events, remains limited[72].
On the other hand, the conclusion cannot be made that, even if no PTSD is diagnosed, a traumatic incident has had no impact whatsoever on the health of individuals. A traumatic event can bring about numerous psychological and physical reactions.

3. Effects of detention on the psychological health of refugees and asylum seekers

(Long-term) detention can lead to further trauma amongst refugees and asylum seekers who have frequently lived through traumatic events in the past. Detention and a constant temporary residential status both - independently of each other - have an influence on developing a risk to PTSD, depression and stress-related disorders[73]. Asylum seekers held in detention report many symptoms of anxiety, depression and PTSD. These symptoms get worse the longer someone is held in detention[74].

Up until now, little systematic research has been carried out into the psychological condition of asylum seekers and sample research populations used in the studies have often been small. Nevertheless, evidence continues to grow that stress as a result of migration, has a negative influence on the health of asylum seekers. New stressful situations increase the chance that traumatic experiences in the past will lead to PTSD and other psychological problems occurring later.

Bad experiences during detention which cause serious stress-related disorders amongst asylum seekers are the asylum procedure (the fear of being deported, concern about family at home, delays in the procedure or lack of information), the condition of the reception facilities (such as overcrowding, night time checks, boredom), upsetting and humiliating treatment by other asylum seekers and limited access to health facilities[75].

67 Van der Velden et al., 2005.
68 Palinkas, 1992; Perilla et al., 2002; Drogendijk, 2003; Netten, 2005.
69 Gerritsen et al., 2005. For a definition of the terms “asylum seeker” and “refugee”, see glossary.
70 Iversen & Morken, 2004.
71 Rijnders et al., 1998.
72 Hondius et al., 2000.
73 Steel et al., 2006.
74 Keller et al., 2003a; 2003b.
75 Steel et al., 2006.

APPENDIX 15 SOURCE DOCUMENTS

TREATIES, LEGISLATION AND STATUTORY REGULATIONS

- International Covenant on Civil and Political Rights (ICCPR)
- Standard Minimum Rules for the Treatment of Prisoners (UN, 1957)
- Principles of Medical Ethics relevant to the Role of Health Personnel, particularly Physicians, in the Protection of Prisoners and Detainees against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment (UN, 1982)
- Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment (UN, 1984)
- Body of Principles for the Protection of All Persons under Any Form of Detention or Imprisonment (UN, 1988)
- Minimum Rules for the Treatment of Prisoners (UN, 1990)
- UNHCR's Guidelines on the Applicable Criteria and Standards Relating to the Detention of Asylum Seekers (1999)
- International Convenant on Economic, Social and Cultural Rights
- The European Convention on Human Rights (EVRM)
- European Prison Rules (Recommendation No. R (87)3)
- Recommendation No. R (98)7 of the Committee of Ministers to member states concerning the ethical and organizational aspects of health care in prisons
- Constitution
- Personal Data Protection Act
- Public Health Act
- Care Institutions Quality Act (KZI)
- Individual Health Care Professions Act (BIG)
- Medical Treatment Contracts Act (WGBO)
- Public Health Preventive Measures Act (WCPV)
- Psychiatric Hospitals Compulsory Admissions Act
- Disasters and Major Accidents Act
- Dutch Disaster Response Improvement Act
- Medical Assistance in the event of Accidents and Disasters (GHOR)
- Ambulance Transport Act
- Criminal Code
- Code of Criminal Procedure
- Custodial Institutions Act (PBw)
- Prison rules (PM)
- Instructions for violent behaviour in prisons
- Aliens Act
- Aliens Decree
- Border Accommodation Regime Regulations
- Working Conditions Act (Arbowet)

Case histories

- CTG no. 2004/254, 24-1-2006: PTSD asylum seeker, warning
- Regional disciplinary tribunal Amsterdam no 02/089, shoulder injury
- Regional disciplinary tribunal Amsterdam 03/254 vp03/255 two warnings; no 03/256 family doctor unfounded; appeal submitted; verdict 2-2-06.
- Regional disciplinary tribunal Eindhoven 2003/50 provision of family doctor medical care by doctor; unfounded but critical observations.
- Council for the Application of Criminal Law and Youth Protection Sittard; 18/01/2000, access to medical care; founded
- Council for the Application of Criminal Law and Youth Protection Lelystad; 27/09/1999, access to medical care; founded with allowance
- BC 18 January 2000, A 99/564/GM

Process plans and guides

- National Model: Process plan for Psychosocial Assistance in Accidents and Disasters
- Crisis management plan for municipalities part II, Rotterdam-Rijnmond region
- Process Plan for Psychosocial Post-disaster Care Amsterdam and region
- Process Plan for Psychosocial Post-disaster Care Utrecht and region
- Departmental Handbook for Crisis Management, Ministry of Health, Welfare and Sport, July 2004
- Handbook for Preparation of Disaster Management, Ministry of the Interior and Kingdom Relations, 2003
- National Handbook for Crisis Decision Making
- Business Reception Team (BOT) Guide – ambulance services
- Guidebook for operational performance
- Basic learning material Medical Assistance in the event of Accidents and Disasters (GHOR), October 2002
- Personnel Handbook of the Ministry of Justice
- Report of Temporary Commission of Accident Investigation Defence, Diving accident, 15 January 2003 in the Wadden Sea, 04-03-2005
- Guide to helping victims, the Netherlands, 20-02-2006
- Framework Regulations for the evacuation of Custodial Institutions 31-03-2003

Literature (see appendix 19)

Protocols and guidelines

- National Ambulance Service Protocol 6
- Protocol: Investigation of Disaster Management Inspectorate for Health Care
- Royal Dutch medial Association guidelines (reporting, medical recommendations, etc.)
- Dutch Institute for Healthcare Improvement guidelines (nursing reporting etc.)
- National Protocols - Medical reception of asylum seekers (MOA)
- Referral set - Medical reception of asylum seekers
- Moscow declaration on prison health as part of public health
- Standard Minimum Rules for the Treatment of Prisoners
- Protocol book, Rotterdam detention centre
- Suicide protocol - Custodial Institutions Service
- Guidelines for keeping files adequately using Electronic Medical Filing

Other documents

- Temporary testing framework curative care in PIs (IGZ 16-3-2005)
- Characteristics of front-line health care in penitentiary situations (Inspectorate for Health Care-intranet)
- Inspectorate for Health Care report 'Care behind Bars', 1999
- Field standards – use of interpretation in health care, 2005
- Inspectorate for Health Care – digest Interpretation in health care, 2004
- Inspectorate for Health Care report Exercise? Necessity!, 2005
- Custodial Institutions Service (DJI)– care quality memorandum
- Inspectorate for Health Care reports for Schiphol-Oost and Rotterdam detention centres
- Health care vision Custodial Institutions Service (DJI)
- Medical Aspects of aliens policy, 2004

APPENDIX 16: ADDITIONAL INFORMATION ON RECEPTION AND AFTER-CARE

1. Information from medical records

The medical services at the detention centres use information from the GP's Information System (HIS). The HIS system does not offer much room for entering additional information and is not particularly conducive to the creation of more detailed reports – even in these situations. In Ulrum, the records are updated manually. Record-keeping in Ulrum was more extensive and better organized than in the detention centres.

The medical services at the detention centres in Schiphol-Oost, Zeist and Rotterdam were asked to safeguard the records relating to the individuals involved in the fire. During the interviews, permission was requested from the detainees for access to their medical records.

In total, the records of 49 individuals from D, J and K Wing were requested. For 9 of these, no records were available. 40 records were studied, 23 of which were from Zeist, 15 from Rotterdam and 2 which related only to those registered at Schiphol. 12 of the 40 records also contain information from Ulrum.
When the records were examined[76], particular attention was given to the quality of the registration, the assessment times and the continuity of the care. The examination of records was limited to the information in the records as described. The professionals involved were not approached on the matter.

Details known of accommodation of persons prior to arrival at Schiphol
For 10 individuals, they were known to be staying in another detention centre before they were moved to Schiphol-Oost, 1 person arrived from an asylum seekers centre. For 3 individuals, details were found of previous accommodation in the medical services' registration:

- For 1 individual, the records stated that the person was found to be very confused (9 October) and needed lots of attention and assistance. The doctor from the Municipal Health Service (GGD) did not record any clear psychiatric diagnosis and deemed medication unnecessary.
- 1 individual was referred to a dermatologist in October, but no appointment had yet been made.
- 1 person was referred to a GP on registration.

Detention Centre Schiphol-Oost
37 persons were registered by the medical services in the Detention Centre Schiphol-Oost, the other 3 persons were not registered. Of the 37 registered persons, the details for 12 of these were reasonably complete or notes in the records were complete, for the other registrations this was only limited in nature. Often, only the personal details were recorded and for the purposes of the medical registration, relevant questions were missing. There was not always an indication of whether the detainee was on medication or not and whether he or she had been seen by a doctor on registration. After registration, 2 people were referred to a doctor. One person was not given a referral, even though it was necessary in view of the problem: the person involved was put in an observation cell and was unable to respond coherently. 17 individuals in the Schiphol-Oost complex already had health problems. This was clear from the information collected on registration, requests for appointments and from surgery appointments.

2. First contacts after the fire

Zeist
In Zeist, 16 of the 23 individuals were seen by a nurse on 27-10-2005. For 6 of these individuals, their records contained no additional details, for 5 of them, the records showed that they had no health problems and for the other 5 people, one or more health problems were noted.

76 The medical records were assessed by staff at the Inspectorate for Health Care, who were seconded to the Safety Board.

- 1 person was seen by an emergency doctor on 29-10-2005. The individual in question clearly had problems and was visited by a psychiatrist on 30-10 and 31-10-2005;
- 1 person was seen by the crisis team on 30-10-2005 after putting in two requests for an appointment;
- 1 person was seen by the nurse on 30-10-2005 after putting in two requests for an appointment;
- On 01-11-2005, the nurse saw two persons after appointments had been requested;
- The crisis team visited 1 individual on 01-11-2005.
- 1 individual was seen for the first time by a nurse on 09-11-2005, but no health problems were recorded.

Summary:

- 16 people were seen for the first time by a nurse on the day after the fire;
- 1 person was seen for the first time by the nurse, three days after the fire;
- 1 person was seen for the first time by the nurse, four days after the fire;
- 1 person was seen for the first time by the nurse, five days after the fire;
- 3 persons were seen for the first time by the nurse, six days after the fire;
- 1 person was seen for the first time by the nurse, fourteen days after the fire.

20 people had their initial contact with a nurse, 1 person had the first contact with an emergency doctor and 2 with the crisis team. Health problems were registered in the medical records of 10 of the people. Only in a number of cases could the signature (initials) of the doctor be found.

Rotterdam

Of the 15 individuals who were transferred to the boat, 10 persons were seen by a nurse on 27-10-2005. For 2 individuals no details were taken, for one person no problems were recorded and for 7 persons, health problems were noted in the records. On 28-10-05, 3 people were seen by a nurse. For 2 of these persons, health problems were noted in the records and for 1 person, nothing was recorded. 2 persons were seen by a nurse on 30-10-2005 and 04-11-2005 respectively.

Summary:

- 10 persons were seen for the first time by a nurse on the day after the fire;
- 3 persons were seen for the first time by a nurse two days after the fire;
- 1 person was seen for the first time by a nurse four days after the fire;
- 1 person was seen for the first time by a nurse nine days after the fire;

The first contact for all individuals was a nurse. For 11 persons, health problems were noted in the medical records. Only in a limited number of cases was the signature (initials) of the doctor found.

3. FOLLOW-UP CONTACTS

The first person seen in most cases was a nurse. The amount of time was determined that transpired between the first contact and the follow-up contact made with a nurse, doctor or psychologist/psychiatrist.
No system was used in the records to indicate whether an interpreter was used during the first contact.

Zeist	None	< 1 week	1-2 weeks	2-3 weeks	3-4 weeks	> 4 weeks	Not known
Nurse	10	5	3	3	1	1	-
Family doctor (GP)	10	5	-	1	3	4	-
Psychologist/psychiatrist	1	7	2	8	3	1	1

Table 1: First registered follow-up contact with nurse, family doctor or psychologist/psychiatrist after the first consultation/appointment in Zeist detention centre, according to the medical records.

Notes from the records in Zeist reveal that contact between the detainee and the medical staff did not go as smoothly as expected, or had to be stopped in 11 cases because there was no interpreter present. This does not take into account situations where a fellow detainee or a guard had to interpret. In Rotterdam only a few notes were made about the problems faced because of the lack of an interpreter.

Rotterdam	None	< 1 week	1-2 weeks	2-3 weeks	3-4 weeks	> 4 weeks	Not known
Nurse	3	7	1	3	1	-	-
Family doctor (GP)	7	-	4	2	-	2	-
Psychologist/psychiatrist	-	1	5	3	6	-	-

Table 2: First registered follow-up contact with nurse, family doctor or psychologist/psychiatrist after the first consultation/appointment in Rotterdam detention centre, according to the medical records.

In Rotterdam, 9 of the 15 detainees had to request for an appointment for the help of a psychologist on their own initiative.

Ulrum

According to the medical records, 12 detainees were taken to Ulrum at different times. It was not always clear on which date the individuals actually arrived. The impression is that registration took place soon after arrival. In 9 of the 12 records, it was noted that the detainee had seen a psychologist, and in most cases the screening had been carried out by a psychologist.

4. Case studies

The case studies below help illustrate how slow that help was forthcoming. Even relatively simple questions were not dealt with. Finding another set of spectacles for someone, whose glasses were burnt in the fire at Schiphol, could not be arranged with any degree of urgency. A month and a half after the fire, the detainee in question still did not have a pair of glasses.

Case study 1

A patient complains almost every day about problems suffered as a result of smoke inhalation. The first x-ray took place on 15-11-2005, following which the person in question was given an inhaler and inhalation powder.

Case study 2

Before his transfer to the detention centre at Schiphol-Oost, a patient had been given a referral to a dermatologist at the asylum seekers centre where he was residing. After removal from the asylum seekers centre, this appointment was cancelled. This was duly noted at Schiphol-Oost and the problem was also acknowledged in Zeist. The patient in question arrived in Ulrum on 30-11-2005. There, on 06-12-2005, an appointment was made for 28-12-2005 with the dermatologist.

Case study 3

On 07-10-2005, a patient was reported to be in an extreme state of confusion in Noorderzand. On 9 and 10 October he was transferred to the observation cell at Schiphol-Oost. The records state: "in my view, a psychiatric patient. No coherent response, but does speak Dutch". On 27-10-2005 in Zeist, following registration for nursing, the notes said: "psychiatric? Strange". On 24-11-2005, the doctor reported: "Obviously schizophrenic". On 25-11-2005, a letter was received from the psychologist with the following observation: "picture of a chronically psychiatric patient, no further discussions with psychologist". From 02-12-2005 onwards, the patient was regularly placed in the observation cell. On 16-12-2005, someone wrote the question in the records as to whether the patient might possibly be assessed by a psychiatrist. On 12-01-2006, notes in the records show that the person has been seen by the Forensic Psychiatric Service (FPD). By that time, the person had been transferred to Ulrum on 09-01-2006. No information about the person whatever was passed on to the asylum seekers centre by Zeist or Schiphol. Later, on the day that the person arrived in Ulrum, the dosage specified in the medical records was sent by fax to Ulrum. In Ulrum, the patient was visited almost every day by the nurse and community care services were also called in.

5. TDBV[77] data

Location	Doctor	Psychologist	Nurse	Luggage
DC Rotterdam (98)	77% (72)	53% (50)	100% (94)	97% (91)
DC Zeist (128)	9% (10)	71% (79)	21% (23)	77% (85)
UC Zestienhoven (20)	70% (14)	45% (9)	100% (20)	65% (13)
Hospital (2)	100% (2)	100% (2)	100% (2)	100% (2)

Table 3: Data relating to doctors' visits (within 24 hours of arrival), psychologist (within a week of arrival), nurse (within 24 hours of arrival) and return of luggage (within 24 hours of arrival) on the basis of TDBV date for all detainees. Figures in parentheses refer to absolute numbers.

6. Information from interviews

Interviews with emergency staff in Zeist and Rotterdam
Both emergency staff in Zeist as well as in Rotterdam said that all detainees from Schiphol-Oost were seen by a nurse on their arrival and that they were registered for medical assistance in the days that followed.

Interviews with detainees

Care received	DC Zeist (32)	DC Rotterdam (23)	Total (55)
During evacuation of Schiphol	N.a.	N.a.	5 (9%)
Information on destination	N.a.	N.a.	5 (9%)
Medical care	21 (66%)	21 (91%)	42 (76%)
Need for more medical care	13 (41%)	11 (48%)	24 (44%)
Psychosocial care	20 (63%)	14 (61%)	34 (63%)
Need for more psychosocial care	10 (31%)	7 (30%)	17 (31%)
Mental health care	11 (34%)	13 (56%)	24 (44%)
Belongings	13 (41%)	8 (35%)	21 (41%)
Clothing	17 (53%)	15 (65%)	32 (59%)
Contact with family	21 (66%)	23 (100%)	44 (81%)
Contact with solicitor	19 (60%)	12 (52%)	31 (57%)

Table 4: Data with respect to reception and care on the basis of interviews with all detainees.

7. Transfer to Ulrum

For the purposes of the transfer of detainees to Ulrum, the Immigration and Naturalisation Service (IND) needed to make a selection from the detainees that were caught up in the fire at the detention centre. To this end, the IND asked the institutional doctors and psychologists at the detention centres in Zeist and Rotterdam to draw up a list of detainees who had trauma-related problems and who might be likely to develop PTSD[78] in the future. In the first instance, this concerned cell occupants from J and K Wing. Cell occupants form the other wings who might possibly be suffering from trauma-related problems and who had been put on the list by the doctor and psychologist, were also assessed however. Likewise, cell occupants with trauma-related problems who had already been released or who would be released, were offered the possibility to receive support and counselling in Ulrum[79]. The process of selecting detainees who

77 Temporary Special Facilities Directorate
78 Post Traumatic Stress Disorder
79 Detainees who did not wish to take advantage of this service were asked to sign a declaration to this end.

might be eligible for transfer to the asylum seekers centre in Ulrum lasted up until 10 January 2006.

On the basis of data provided to the IND from the detention centres in Zeist and Rotterdam, a list was drawn up of around 60 detainees who might possibly develop PTSD as a result of the fire in the Detention Centre Schiphol-Oost. This list was then issued to the Medical Advice Bureau (BMA) by the IND. The BMA, in line with standard procedure[80] decided on which individuals were eligible for leave to remain and for transfer to Ulrum. For the BMA procedure, detainees had to give permission for their medical records to be examined. On 15 January, 24 persons on this list were transferred to Ulrum (21 from J and K Wing and 3 individuals for other wings). The reasons why the other detainees were not transferred to Ulrum were diverse, according to the IND, varying from not giving permission for medical records to be examined and non-justified declaration of complaints such as trauma-related problems, to the assessment that the treatment of the problems identified was in the land of origin.

8. Relief and after-care in the Detention Centre Schiphol-Oost[81]

After the fire, twenty detainees remained behind at Schiphol-Oost[82]. These were 'drugs swallowers' who were originally detained in A Wing of the detention centre. On the night of the fire, they were initially taken in by the Offenders' Reception Department (BAD) because of the possibility they were carrying drugs in their bodies. Early in the morning following the fire, they were taken to the L and M Wing of the detention centre.

Internal assistance
According to the emergency staff, the cell occupants who remained at Schiphol-Oost were visited every day by a psychologist, psychiatrist, Municipal Health Service (GGD) doctor and a specialised nurse. On the Monday after the fire, the psychologist and the psychiatrist spoke with all the detainees present. If necessary, interpretation was performed using a headset. Many of the detainees had already been given treatment because they were already suffering from psychological problems before the fire. On request of the psychologist and psychiatrist, the windows of the cells were left open, the guards came immediately to the cell if they were called, food was more varied and there was a different composition of persons per cell.
In addition, group sessions were organized so that cell occupants could express their emotions and give each other support. For sleep, the psychiatrist prescribed medication for three nights. On the Tuesday after the fire, there were still eight cell occupants at Schiphol-Oost. The reason that numbers had dropped, can be put down to standard transfers to other detention centres or the lifting of custody as soon as drugs swallowers were declared "clean". Approval of the GGD doctor was required for transfer.

9. Relief and after-care in 't Nieuwe Lloyd

From Tuesday 9 November 2005, cell occupants, who had been moved to the Rotterdam Merwehaven and the Rotterdam Airport deportation centre from L and M Wings after the fire at Schiphol-Oost, were transferred in stages to phases to 't Nieuwe Lloyd[83] Previously, 't Nieuwe Lloyd had served as a juvenile detention centre, which from 8 November 2005 was taken into use for replacement capacity for Schiphol-Oost for the reception of persons refused entry to the Netherlands[84].

80 This procedure is based on article 64 of the Aliens Act. This article specifies that deportation is not imposed as long as to travel remains unacceptable on the basis of the health of the alien or that of his/her relatives.
81 Medical assistance (somatic) offered during the night of the fire falls outside the scope of this investigation. This relates, for example, to the arrival and treatment given by the ambulance services.
82 The Safety Board did not conduct any interviews with these detainees in view of the fact that they were not directly involved in the fire. However, this does not discount the fact that they may have developed problems,
83 The Safety Board did not conduct any interviews with cell occupants who were transferred to *'t Nieuwe Lloyd*. The main reason for this was that the investigation concentrated on the reception and after-care of the cell occupants from J and K Wing of the Detention Centre Schiphol-Oost. The detainees who were transferred to *'t Nieuwe Lloyd* were on the L and M Wing at Schiphol-Oost. They did not experience the fire at close hand and did not spend part of the night of the fire in the exercise cage. However, this does not discount the fact that they may have developed problems as a result of the fire.
84 From article 6 of the Aliens Act 2000

Internal assistance
Many staff who worked prior to the fire at Schiphol-Oost, were employed afterwards in 't Nieuwe Lloyd. On the day the first detainees arrived in the detention centre, the psychologist and psychiatrist held group sessions with the new inmates. A day later, they spoke to them individually. The group sessions were continued on Monday 14 November 2005. On the same day, around 48 detainees who had been held in 't Nieuwe Lloyd at the time of the fire at Schiphol-Oost went on hunger strike, because they felt that they were not receiving any attention[85].

External assistance
On 14 November 2005 (the day on which the hunger strike started), the medical services of 't Nieuwe Lloyd put in a request to the GHOR[86] via a member of the supervisory commission (CvT)[87] for additional assistance in provision of after-care to detainees. Up until 24 November, psychosocial help was provided by the Municipal Health Services crisis intervention team, making use of the psychosocial post-disaster care plan (PSHOR). Fifteen welfare workers were deployed. For three days, spread over the space of a fortnight, these external members of staff talked to 40 detainees. If required, use was made of interpreters. Only a limited part of the medical records for the detainees was available to this staff. An individual care plan was drawn up for each of the detainees. These plans were discussed with the medical services of 't Nieuwe Lloyd.

10. Relief and after-care of emergency workers

Ambulance staff
At 03.20 hrs on the night of the fire, the Medical Officer in Charge (OvDG) for the ambulance service staff called in the In-house Reception Team (BOT)[88] of the regional ambulance team in Amstelveen. This BOT consisted of one person who normally worked as a paramedic. All ambulance staff that were on location on the night of the fire, received a debriefing, carried out by the BOT and the Medical Officer in Charge. The events that took place during the night were discussed at this meeting.
The BOT later held a meeting with the crew of one of the ambulances in Amstelveen, which was primarily intended to get staff to tell their story and to get an initial indication of the after-care required. In Amstelveen, where the meeting took place, there were no shower facilities, so that showers had to be arranged to get rid of the smell of the fire. According to the BOT, the other emergency workers did not require any further after-care. If they still needed to talk at a later stage, then it was always possible to arrange to call in the BOT. After two separate talks with individuals, one of the team members of the BOT had telephone contact with these members of the ambulance team in question. Both emergency workers expressed a wish for an additional meeting.

Fire fighters at Schiphol
The commander of the Schiphol Fire Brigade summoned on the night of the fire, together with the Officer in Charge, decided to provide after-care to the fire fighting staff of the Schiphol Fire Brigade. The Schiphol fire brigade consists of three fire stations and does not have its own BOT. In the morning after the fire, the Fire Brigade commander, who is also a psychologist, held a debriefing at each of the three stations for the staff concerned. At these meetings, attention focussed on a reconstruction of the events, the feelings of those involved and their expectations. Likewise, additional attention was given to possible reporting of events in the media.

85 The last detainees ended their hunger strike on Wednesday 16 November
86 Medical Assistance in the event of Accidents and Disasters
87 This person was also employed by the GHOR
88 Members of this team are colleagues who hold an additional position, offering an informal form of psychosocial care. Whenever it is deemed necessary or desirable, welfare staff are referred to the professional emergency response team, such as the in-house doctor, or in-house social work team. If indicated, they can be referred to specialised therapists within the GGZ (Mental Health Service).
The purpose of this reception is:
1. to offer practical help;
2. to support natural recovery;
3. to indicate at an early stage any trauma-related problems and encouraging adequate treatment of these;
4. to mobilise the social network;
5. to redress any negative reactions from the surroundings;
6. to deal with future traumatic events.

On Saturday 29 October, a second debriefing of the Schiphol Fire Brigade was held. The fire station commanders took charge of these debriefings, which took place at the same time in all three stations. In addition to the fire fighting staff, staff from the Schiphol ambulance services who were involved were also present and the commander of the Haarlemmermeer Fire Brigade. The BOT of the Amsterdam Fire Brigade was also present as observers. This BOT was available for 24 hours in case any support was needed. Additional attention was given to fire personnel who found the bodies of the deceased cell occupants.

The third debriefing took place on 1 November 2005. A great deal of attention at this meeting focussed on media reports. Furthermore, the meeting also focussed on preparing staff for the leave period that followed the debriefing (the whole team had five days off). No members of other services were present at this meeting.

In addition to these three debriefings, the Schiphol Fire Brigade visited the detention centre in three groups. No individual discussions were held with staff of the Fire Brigade involved in the fire. No members of staff of the Fire Brigade involved in the fire reported sick in the period following the fire.

APPENDIX 17: RIGHTS OF DETAINEES AND DUTIES OF SITE MANAGER

According to the Prisons Act and the Penitentiary Order cell occupants are, at all times, entitled to:

- Send and receive letters and items by post.
- At least one hour-long visit per week.
- At least one telephone call per week.
- Treatment by a doctor or locum appointed by the institution.
- Consult a doctor of one's own choosing, at one's own expense.
- Social care and help.
- Wear their own clothes and footwear.
- Have access to news at their own expense.
- Make use of library facilities.
- Physical exercise and sport for at least two full 45-minute periods per week.
- Recreational activities and access to open air every day.
- Notify their consular representative with regard to their detention.
- Profess and practice their religion or conviction freely.

According to the Prison Act the duties of the director cover the following areas:

- Availability of a doctor for regular surgeries, and consultation at other times, if this is essential for the health of detainees.
- Provision of prescription medicines and diets, execution of prescribed treatments, or transfer to a hospital.
- Provision of care and assistance to detainees by appropriate behavioural experts, and the transfer of a detainee to a secure place, if the care and assistance necessitates this, and the transfer is required to enforce proper order.
- Provision of food, necessary clothing and footwear.
- In the provision of food, as much consideration as possible must be given to the religion or conviction of detainees.
- Availability of adequate spiritual care, which ties in as much as possible with the religion or conviction of the detainee.
- The detainees must be able to look after their appearance and bodily hygiene properly.
- Custody of confiscated objects on submission of a receipt.
- Availability of sports instructors, librarians and teachers.
- Opportunity for detainees to participate in recreational activities for at least six hours a week, and to have access to the open air for at least one hour per day.
- On arrival, detainees are informed about their rights and obligations and their right to submit notice of objection, application, complaint or appeal and to have access to the appointed member of the supervisory committee every month, both in writing and as much as possible in a language which they can comprehend.
- The director ensures that activities and visits are offered for at least 18 hours and at the most 63 hours per week, in accordance with the applicable house rules and daily programme.

APPENDIX 18: BROCHURE WITH INFORMATION FOR THE CELL INHABITANTS[89]

Institute for Psycho Trauma

More information
It can happen to all of us.....

INFORMATION ON STRESS REACTIONS AND COPING WITH TRAUMATIC EVENTS
Text: Dr Peter van der Velden & Peter van Loon
The after-effects of traumatic experiences such as aggression, robberies, accidents, calamities and disasters are not limited to material losses or physical injury. People often feel dazed, powerless, anxious, distressed and fatigued. Not only during the traumatic event, but also during the days, weeks, months and sometimes even years afterwards. This is partly related to the seriousness of the traumatic event, but also to how we and those around us deal with it. This brochure will tell you and people close to you more about this.

It won't happen to me
Victims and people close to them have to deal with a wide range of stress reactions in the aftermath to a traumatic event. This is perfectly understandable – after all, life-threatening situations do not usually occur in our normal daily lives. The thought may cross our minds briefly, but not really. Most of us just think 'it won't happen to me' ('or to my colleagues or loved ones'). Although we do know these things can happen, we don't really stop to think about it. Life would be unbearable if we continually concerned ourselves with what might happen. Besides, it has been our experience that things usually go well, so why worry? Almost all of us assume that we are in control of our lives. As long as we keep our eyes open and don't do anything foolish, then it is not so likely that anything will happen to us. This allows us to conveniently forget that the world is sometimes not so safe at all. Which makes life ever so much easier and more pleasant.

Common stress reactions after traumatic events:
Preoccupation: You are unable to put it out of your mind, even though you really want to.
Reliving it: The painful feelings and images suddenly come back to you.
Nightmares: You have terrible dreams about it.
Asking 'why': You keep asking yourself questions like 'what exactly happened', 'how could this be' or 'why did I do that'.
Disorientation: In situations similar to the traumatic event, the same emotions come to the fore.

Mental wound
These reassuring thoughts are rudely shattered when we are confronted with aggression, an accident, a robbery, a disaster or other traumatic events. Serious threats have the same effect. The safety we take for granted has become an illusion. Suddenly we are at risk, we are face to face with death, we see how others are injured or threatened, or we hear that a loved one has died. The blow caused by such a traumatic event is therefore sometimes likened to a mental wound. When you have a physical wound, you feel pain, and after a mental wound you feel mental pain. The wound is bigger in some than in others, because we each have our own experiences. Recovering from a mental wound is quite similar to recovering from a physical wound. It requires care and attention and, if the mental wound was a deep one, the scar will be tender for quite some time.

Preoccupation
It is difficult to accept the fact that the world is suddenly life-threatening. It is as if we are literally unable to believe that 'it' happened. Feelings of disbelief and bewilderment are dominant. Sometimes we are so dumbfounded that we feel nothing at all. It is as if we are watching it from a great distance or going through it in a dream state. It is why we cannot simply dismiss a traumatic event: we are preoccupied with it. We talk a lot about it because we are 'full' of it.

89 The brochure was published in Dutch, English, French, German, Spanish and Arabic.

Usually we have a great many unpleasant memories and we have a hard time dispelling them. Because these thoughts fill our mind, we may fall asleep immediately or perhaps only with great difficulty. In some cases people have nightmares about what they did – or perhaps neglected to do – what they saw, heard or smelled. Many victims and people around them keep asking themselves questions such as 'How could this happen ?' or 'Why did it happen to me?'. We also have a deeper understanding of traumatic events that happen to others. This, in turn, brings our own feelings to the surface once again. Whereas we used to watch reports of traumatic events without giving them too much thought, now it affects us. It is as if we relive our impressions during the traumatic event over and over again, even though it is in the past. It is completely normal to feel grief, dejection and despondency at such times. Particularly if you have lost someone you loved, grief will occupy a very important place. It is difficult to bear the knowledge that you will never again be able to see, talk to, touch or hear the other person.

Loneliness: You feel alone and misunderstood. Or you feel apart, different from the others.

Guilt and shame: You blame yourself because you were not able to save others, because you think you made a mistake or because you survived the disaster. You are ashamed of the way you reacted during or after the event, or of your scars.
Trouble falling asleep or staying asleep: Fretting or thinking about the event or the aftermath stops you from falling asleep or causes you to wake up throughout the night.

Timid
Because the reassuring thoughts are now gone, we are often more watchful and anxious than usual. We feel so vulnerable that we are constantly prepared for new dangers. For example, if we have children, we may pay more attention to where they are or what they are doing. Sudden loud noises to which we would not have responded in the past now arouse physical reactions and fright. People who have been robbed, kidnapped or abused may be frightened by loud shouting, people who were in a fire may have a strong reaction to certain smells, and victims of explosions or earthquakes may be frightened by unexpected tremors.

Fatigued
And so it is not strange if victims and people close to them start to feel fatigued after a while. Because we are constantly preoccupied, our minds are also constantly at work. And mental work, especially if its purpose is to come to terms with traumatic events, is just as tiring as physical work. It can even make us 'overworked' in a certain sense, so that we become lethargic and complain of tiredness – the more so if we also have to deal with, or are responsible for, a great many practical matters.

Avoidance of thoughts or feelings: Avoiding conversations or thoughts, preferably by working hard, drinking too much, not talking about it or not wanting to think about the traumatic event.
Disbelief and amazement: You can scarcely believe what has happened.
Memory failure: You are unable to recall certain – important – moments during the event.
Loss of interest: You shrug your shoulders at hobbies in which you previously took great pleasure. You just don't have the energy for them.
Alienation: There is a sense of strangeness to many situations, even if they are familiar.

Loss of patience, inability to concentrate
All these circumstances make it easy for us to lose our normal patience. For example, we cannot seem to find a quiet moment to help or to comfort our children, or we respond abruptly rather than supportively. All it takes is the smallest setback, one wrong remark by a friend or co-worker and we respond with irritation. And if we suffer from fatigue, we are often less able to concentrate, which may result in mistakes, or we may become forgetful or suddenly realize we just don't remember exactly what we were doing.

Looking for a change
And yet we are not completely at the mercy of our tendency to relive the event. People have a natural defence mechanism against too many painful thoughts and feelings. We can give ourselves a time-out by not talking about it, by working hard or looking for some other kind of diversion. Then we are able to briefly forget the traumatic event or its horrific consequences or to avoid thinking about it. At such moments we are momentarily protected against all our vehement emotions. And that can be quite a peaceful feeling.

It helps to talk about it, to get enough rest
Looking for distraction gives a little respite, and this also contributes to the process of coming to terms – at least, as long as we do more than simply avoid. Coming to terms with something does not mean suppressing, denying or keeping silent about our experiences, thoughts and feelings. Just like a physical wound, a mental wound must be cared for. If a mental wound is to heal, it will need moments of rest; you will also need to talk about it with others and accept the accompanying emotions. Talking brings relief, just like crying can. Coming to terms is not something you can do all at once – nor is a serious physical wound healed in one day. And so it is good to talk about it regularly. Preferably in peace and quiet, so that you can gradually order all your experiences, thoughts and emotions. Every time you talk about it there will be a little less pain. And though we may sometimes get the feeling we are telling it for the nth time, this is not a bad thing. After all, we are talking about a traumatic event – whether it involved serious threats, aggression, a robbery, an accident, a calamity or a disaster – that we will never forget.

Emotional indifference: You do not feel the normal feelings of pleasure, love or sadness, or only superficially.
Despondency: You have the feeling that there is no point in anything; everything seems so useless.
Grief: You grieve for the loss of others, or for your trust in life.
Easily irritated: You are irritated more easily than usual. If you don't manage something the first time, you fly into a fit of rage.
Anxiety and heightened watchfulness: You are on the lookout for new dangers and afraid the event will be repeated.

Tips for victims and people close to them
talk about it with others; don't suppress it
allow yourself extra rest and relaxation
make allowances for your feelings and thoughts
don't pretend you are stronger than you are
rely as little as possible on sleeping pills or tranquillizers
try to give your days some structure
don't do too much extra work
avoid unpleasant discussions about the event
accept the fact that coming to terms takes time and energy
don't shut yourself off from people who are important to you
follow your daily routine as much as possible, even if you get less done than usual

Attention and support from people around you
Full attention from those around you is of great importance: people who take the time to listen to what you have to say, to ask questions in a way that is not sensationalist about what happened, how things are going and what needs to be done. In short: people need to show they understand and appreciate what has happened to us (and what may happen in the future). Not just the first days or the first week, but even months and sometimes years later.

Fright: Unexpected loud noises and sudden movements give you a terrific fright.
Concentration problems: You may be lost in deep thought or you may have a hard time focusing your attention.
Physical complaints: After a situation resembling the traumatic event, you suffer from palpitations, shaky knees, stomach ache or headache.
Fatigue: You feel listless, apathetic. You are exhausted, done in, have no get-up-and-go.

Tips for people close to you
express an interest and avoid sensation
give your full attention and don't make silly jokes
be the one to get in touch, show your sympathy
ask how things are going, even weeks and months later
offer practical help if the victim needs it, but don't patronize
make sure the victim gets enough rest or relaxation
try not to give unsolicited advice
provide some order and structure
don't try to ease the pain by pointing out that others are even worse off
be aware that victims want to tell their story several times

be genuine in your responses and avoid sensation
be aware that everyone reacts in their own way
do not reproach or blame
keep the victim informed of any investigations

All stress reactions, such as preoccupation, fear, fatigue and loss of patience and concentration, are normal reactions to abnormal events. Everyone will have them to some extent. If you are concerned about your stress reactions (or those of others), talk it over with someone at the Instituut voor Psychotrauma.

Problems in coming to terms
Most people have sufficient healing capacity to come to terms with a traumatic event on their own, with the support, understanding and recognition of those around them. The stress reactions gradually decrease and after a few months they will no longer dominate life and work. Unfortunately, there will be a number of victims and persons close to them for whom this does not apply. Their stress reactions will remain, and will increasingly rule their life and work. Usually due to the seriousness of experiences, it may frequently involve events in which they lost a loved one, such as a partner, child, parent or very dear friend. Coming to terms with such events and going through the mourning process will often take a few years. In all other cases, if the stress reactions are still very predominant three months or more after the event and if they control your life, it is a good idea to get in touch with someone at the Instituut voor Psychotrauma, the doctor of your health & safety authority, or your family physician. There may be some obstacle preventing you from coming to terms with the event. If this is the case, psychotherapeutic treatment is needed.

APPENDIX 19: LITERATURE

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APPENDIX 20 BACKGROUND INFORMATION FOR ANALYTICAL FRAMEWORK FOR CHAPTER 6

1. Introduction:

In this appendix, a portion of the analytical framework will be described which is used in the assessment of the fire fighting, rescue and evacuation (BRE) for the fire in the Detention Centre Schiphol-Oost in the night of the 26th of October 2005. This framework has been prepared with the assistance of the Inspectorate for Public Order and Safety. Certain sections of the analytical framework have been treated in the main report. This involves the preparation and fire fighting activities performed by the Fire Brigade, the fire fighting efforts of the internal (emergency) organization in place at the detention centre and the response times[90]. For this reason, these aspects will no longer be discussed here. This appendix will only provide a further explanation of the preparation efforts performed by the in-house emergency organization.

In drawing up the analytical framework, regulatory and other source materials were used which could be assumed to have been known in 2002 and subsequent years within the organizations and persons charged with fire fighting duties and responsibilities. The source materials consist of a range of formal and informal, general and specific rules at a centralized and decentralized (municipal) level.

2. Overview of source materials

In drawing up the analytical framework, regulatory and other source materials were used which could be assumed to have been known in 2002 and subsequent years within the organizations and persons charged with fire fighting duties and responsibilities with regard to the Detention Centre Schiphol-Oost. This appendix contains an overview of all of the source documents as well as a further justification of the development. The following regulations apply specifically locally or regionally:

- The building permit and the occupancy permit for the K Wing at the Schiphol Detention and Deportation Centre, issued by the Municipal Executive of Haarlemmermeer.• Emergency plans, procedures, instructions and methods set down officially regarding actions to be taken in cell blocks and/or the K Wing of the Detention Centre Schiphol-Oost. This involves actions taken in the event of a fire by in-house emergency and first-aid workers, other personnel and the detainees at the Detention Centre Schiphol-Oost; the municipal and regional Fire Brigade and the in-house Fire Brigade Schiphol; and other emergency aid services which were involved in the fire on 27 October.
- The building regulations currently in force, the fire safety regulations and emergency services and the legal status regulation of the volunteers working for the Haarlemmermeer Municipal Fire Brigade. Emergency plans, procedures, instructions and methods set down officially regarding actions to be taken in the event of fire in cell blocks and, supplemental to this, in comparable buildings in general by:
  - the municipal and regional Fire Brigade and the in-house Fire Brigade Schiphol;
  - other services which were involved in fire fighting, evacuation, rescue and emergency and first aid efforts.

The following regulations apply nationally:

- Articles from laws and other formal regulations such as the Working Conditions Act, the Working Conditions Decree, the Housing Act, the Fire Brigade Act 1985 and the Fire fighters Decree.
- The (national) models for the municipal building regulations, the fire safety regulations and emergency services and the legal status regulation of the volunteers working for the municipal Fire Brigade of the Association of Netherlands Municipalities (VNG). These models and regulations do not apply nationally; this is only the case if these have been adopted as such by the local municipality.

90 See Chapters 4 and 6.

- The Fire Safety Scheme (BBC) for Cells and Cell Blocks of the Ministry of the Interior and Kingdom Relations is valid as the informal overall framework for this building and occupancy function, to the extent legislation does not provide otherwise[91]. The aspects relating to buildings found in the scheme may not, according to the Buildings Decree, play a role in the assessment of a building plan; this part of the report only discusses the performance requirements for the Fire Brigade found in the scheme.
- Other national frameworks, guidelines and recommendations for the organization and methods used by the emergency organization and in-house emergency and first aid in cell blocks, among others;
- Officially set out – national – subject matter for the national Fire Brigade and for in-house emergency and first aid.

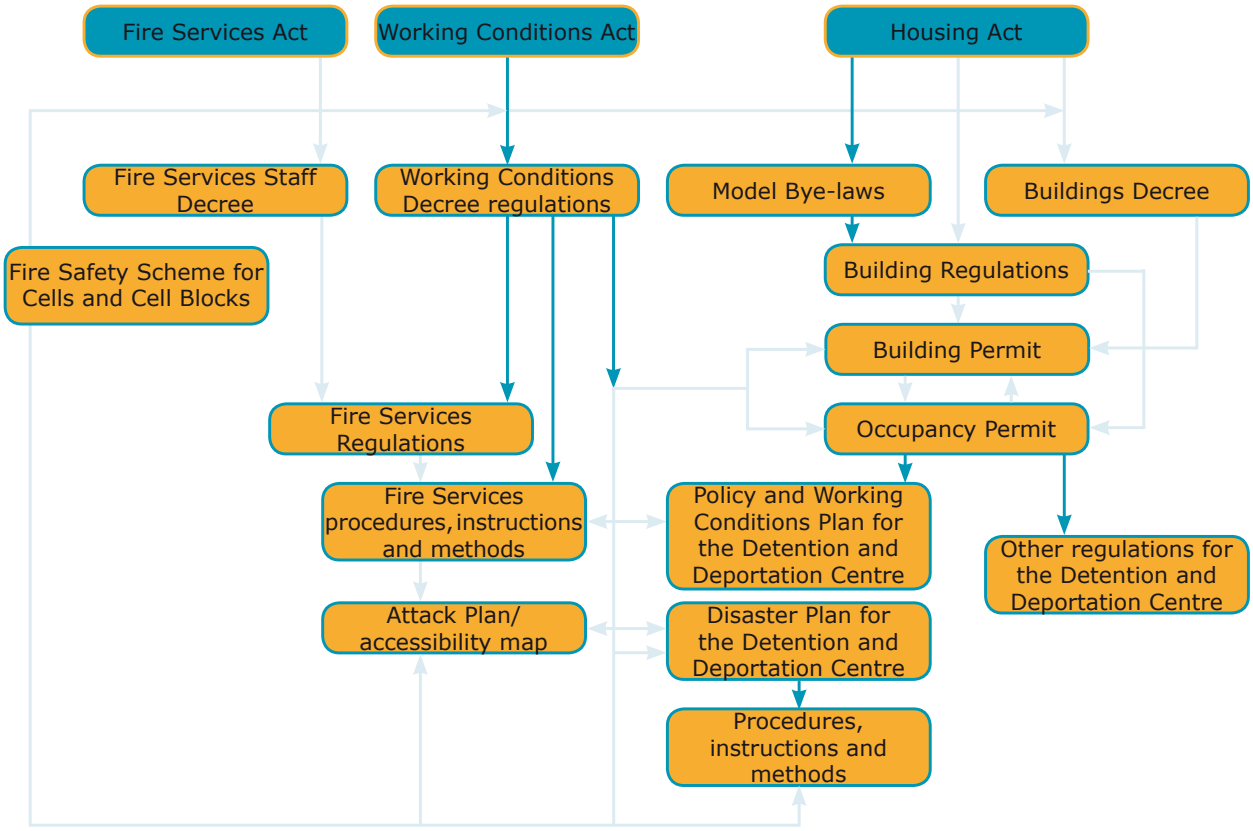

Figure 1: Relationship between the source materials

3. Preparation by the in-house (emergency) organization at the detention centre

Working Conditions Act
The Working Conditions Act (Arbowet) such as it currently applies, deviates from the law in place at the time the Detention Centre Schiphol-Oost was built (2002) and the law in place at the time of the fire at the detention centre (27-10-2005). Within the framework of this investigation, the modification made with respect to professional assistance is relevant here. The legislation has been relaxed as of 1 July 2005: employers may, under certain conditions (Art.also seek the assistance of an expert instead of a certified working conditions service.The text below is outlined within the current legislative framework.

The Working Conditions Act prescribes that the employer must pursue the best possible working conditions policy (Art.3; par. 1). Unless this cannot reasonably be expected, the employer must organize work in such a way that it does not present a danger to the safety and health

91 The Fire Safety Scheme for Cells and Cell Blocks incorporates an interpretation of the Fire Services Manual for the Ministry of the Interior and Kingdom Relations. For this reason, this manual is not mentioned separately. As is further explained in Chapter 4 (General Frame of Reference), of the Fire Safety Scheme for Cells and Cell Blocks is a framework and not legislation, offering possible options rather than one well thought-out safety principle.

of employees (Art. 3, par. 1a), take measures to prevent or limit dangers and risks as much as possible (Art.3, par. 1b), and take measures to limit damage as much as possible (Art. 3, par. e). To this end, the employer must also ensure that the authorities and responsibilities are distributed properly among the employees (Art. 3, par. 2) and that the working conditions policy is regularly assessed and adjusted as needed (Art. 3, par. 3). This is elaborated upon further in the articles below.

Art. 5 of the Working Conditions Act provides that an employer must have a Risk Assessment and Evaluation (RIE) process in place. This process sets out in writing the risks implied in the work to be performed by (special categories of) employees, the dangers which could occur and the measures taken to minimize risks (Art. 5, par. 1). A list must be kept describing the nature and dates of occupational accidents (Art. 5, par. 2). The term within which the proposed measures are to be taken must also be determined (Art. 5, par. 3). The RIE will be adjusted in the event the experiences gained, modified working methods or circumstances give cause to do so (Art. 5, par. 4). The employer must ensure that every employee (who is made available to him or her) is informed with regard to the RIE in a timely manner (Art. 5, par. 5 and par. 6). The RIE also applies to third parties. If the work results in a possible danger to the safety or health of third parties, the employer must take effective measures to prevent this risk on the grounds of Art. 10 (Art. 10, par. 1). Cell occupants are also defined as a third party.

In addition to its own staff, the detention centre also employs staff from a security firm to provide security. The statutory basis for the employers as defined in the Working Conditions Act may be found in Art. 1, par. 1a of the Working Conditions Act of 1998: the employer is "that party to whom another person is made available for the performance of work". The Ministry of Justice thereby also qualifies as the formal employer of the security firm's staff as defined in the Working Conditions Act and is therefore responsible for carrying out all of the employer's duties which are stipulated in the Working Conditions Act. The security firm must however make sure it has knowledge of the working conditions for the staff to be engaged. To this end, the Ministry of Justice must provide insight into the risks faced by the staff to be employed on the basis of the RIE (Art. 5, par. 5).
On the grounds of Art. 8 of the Working Conditions Act, the employer is required to ensure that the employees are well-informed (via instructions, etc.).

With respect to its obligations under the Working Conditions Act, the employer shall seek the assistance of one or more expert employees (Art. 13, par. 1), experts (Art. 13, par. 3), or a combination of both (Art. 13, par. 2).In addition, Art. 14 provides that with regard to the RIE and the advising on and assessment of, employers will seek the assistance of a certified working conditions service or individual (Art. 14, par. 1a).
With respect to its obligations under Art. 3 (the pursuit of the best possible working conditions policy), the employer shall seek the assistance of one or more employees, who shall be appointed by him as in-house emergency and first aid workers (Art. 15, par. 1). The second paragraph (Art. 15, par. 2) describes the duties of an in-house emergency and first aid worker as follows:

- providing first aid in the event of accidents;
- limiting and fighting fires and preventing and limiting the occurrence of accidents; • sounding the alarm and evacuating all employees and other persons present at the company or the institution in the event of emergency situations;
- alerting and working together with emergency services organizations in connection with the assistance stated in the points above.

The in-house emergency and first aid workers shall have the proper expertise, experience and equipment, be sufficient in number, and available for as much time and organized as is required in order to provide the assistance necessary (Art. 15, par. 3).

The Working Conditions Act also assigns duties to the employee. In connection with his or her work, this person must observe the necessary caution and precision and act to the best of his or her ability in the interest of his or her own safety and health and that of others (Art. 11).

Working Conditions Decree
Chapter 2 Section 4 of the Working Conditions Decree places further demands on the in-house emergency and first aid organization. The following must be taken into account: the nature, size and location of the company (Art. 2.17, par. a), the potential dangers and possible fire scenarios present (Art. 2.17, par. b), the number of employees which are expected to be present

(Art. 2.17, par. c) as well as those persons who are unable to get themselves to safety of their own accord (Art. 2.17, par. d), the availability and response time of the Fire Brigade and other emergency services (Art. 2.17, par. e), and the infrastructure (Art. 2.17, par. f).
With regard to the aspects involving the operation, accessibility, availability and presence of the in-house emergency and first aid organization, Art. 2.18 requires that this is organized in such a way that the in-house emergency and first aid duties may be adequately fulfilled within several minutes of the occurrence of the accident or fire (Art. 2.18, par. 1) and that emergency services are provided with adequate assistance (Art. 2.18, par. 2).To this end, it is also important that a sufficient number of in-house emergency and first aid workers are present (Art. 2.19, par. 1).

The general explanation to Art. 4 of Chapter 2 of the Working Conditions Decree states that the employer must supply the in-house emergency and first aid organization with 'customized care'.This principle will not be further elaborated upon due to differences observed in practice. However, the necessary level of facilities must be determined based in part on the RIE, and the expertise necessary for the in-house emergency and first aid service must be established on the basis of aspects found in Art. 2.17. The employer may seek the advice of a working conditions service or other expert.

The explanatory notes to Art. 2.17 state that the Fire Safety Schemes can be used in drawing up the RIE. Furthermore, it repeats the concept that 'customised care' is necessary for the in-house emergency and first aid organization. To this end the number of expected employees and third-parties incapable of coping on their own must be taken into account. In some buildings, such as prisons, in addition to the employer, the employees also bear responsibility for the safety of third parties unable to cope on their own.For this reason, they must have specific experts available and means that enable them to provide assistance safely. In addition, within the framework of the front desk duty of the in-house emergency and first-aid workers, timely agreements must be made with the Fire Brigade and other emergency services, including those regarding the way in which they are provided with assistance. In the explanatory notes to Art. 2.18, the requirement 'within several minutes' stipulates that first aid must be provided within three minutes, unless the Fire Safety Scheme for Cells and Cell Blocks prescribes otherwise. This scheme provides that in a standard spread of a fire, in-house emergency and first aid workers must arrive at a burning cell within two minutes and with a minimum of two people, that the person locked in is brought to safety within two minutes, and that the door to the burning cell is then closed (BBC page 34).

Occupancy permit
The occupancy permit (appendix B to the permit 2003/0570) states the following about the fire safety instructions and the evacuation plan:
"a. The proprietor of the building must, in consultation with the chief fire officer, draw up fire safety instructions to be followed by the staff."
"b. The staff must receive training in the fire safety instructions applicable to their position."
"c. The proprietor of the building must, in consultation with the chief fire officer, draw up an evacuation plan to be followed by the persons present in the building."

A general norm has been developed for evacuation plans; a Netherlands Technical Agreement (NTA) applies in this case. This may be adapted more quickly to social developments than the so-called NEN norm. The NTA contains a detailed example of an evacuation plan[92].

Instruction and drills
On the grounds of the Working Conditions Act, in-house emergency and first aid workers must possess sufficient expertise, experience and equipment and be organised to the extent that is required in order to provide the assistance necessary in the event of an accident or fire (Art. 15, par. 3). The Working Conditions Decree provides that in-house emergency and first aid workers should be trained properly so as to guarantee the quality of emergency and first aid assistance provided (Art. 2.21). According to the explanatory notes provided with this section, a training programme geared towards in-house emergency and first aid tasks is required.

The Fire Safety Scheme for In-house Emergency and First Aid (BBC BHV 2000), drawn up in collaboration between the Ministry of the Interior and Kingdom Relations and the Ministry of Social Affairs and Employment, aims to clarify the minimum amount of knowledge and skills

92 NTA 8112-4 (Guidelines for an evacuation plan - Part 4).

required of the in-house emergency and first aid worker. It identifies the following task areas: first aid, limiting and fighting a starting fire, evacuation and communication. The BBC BHV serves as a tool in choosing and/or designing the training to be used.
The Working Conditions Decree provides that, in order to maintain the desired level of in-house emergency and first aid, refresher courses, drills or other activities must be organised for the in-house emergency and first aid workers (Section 2.22). The drills must preferably be held in the actual environment or in a situation which best imitates this. The employer must ensure that this is possible.

Given the (shared) employer situation, with respect to the Securicor staff, the following applies[93]:

- Securicor must provide the Ministry of Justice with details on the (basic) skills staff to be hired in must possess.
- The Ministry of Justice must arrange for the necessary supplementary education and instructions to see that the system functions given the specific working conditions at the location in question.
- The Ministry of Justice must supervise the application of the safety guidelines and measures for its own staff as well as any staff hired in.
- If it appears that the hired-in staff do not possess the necessary (basic) qualifications, the Ministry of Justice must terminate their hire immediately and determine whether any replacement staff do in fact satisfy the requirements. If there is any doubt about other qualifications, it must be determined to what extent these are being met.

93 The interpretation of the Working Conditions regulations as approved by the Ministry of Social Affairs and Employment (SZW) in this regard.

APPENDIX 21 BACKGROUND INFORMATION TO THE CIRCUMSTANCES OF THE INCIDENT

1. Entrance

The main entrance to the detention centre is a so-called speed gate. In order to be able to enter the detention centre, vehicles must first pass through the speed gate, which consists of two gates. The second gate cannot only be opened until the first gate has been closed behind the vehicle. The speed gate is operated by the DJI Switchboard. The speed gate was put into use in late May 2005.

2. Staff and organization at the Detention Centre Schiphol-Oost

The Site Manager's duties are restricted to the primary process and as such, he is the direct supervisor to the four department heads and the medical services. The acting Site Manager is responsible for the staff (repatriation official, finances) and the other departments. The four department heads act as operational managers and are responsible for the situation in their department. There are approximately 140 guards; none of them is in the permanent employ of the complex although 100 are involved in what is known as the DJI pool[94] and approximately 40 guards are made available by a security firm. Officially, the DJI poolers are 'guards', whereas the individuals hired from Securicor are 'detention supervisors' and have no direct contact with the cell occupants. In practice, detention supervisors do have contact with cell occupants. The DJI poolers are 'unique' to the Temporary Special Facilities Directorate. The other sections of DJI do not as yet avail themselves of this. This appendix will refer to staff or employees; the reason for this is the minor distinction which exists, in practice, between detention supervisors and guards.

In addition to DJI staff, there are also KMar staff working at the detention centre.

Service/Section	Number	Task/role on the night of the fire
Staff DJI (CIS) 'DJI poolers'	7	Comprised of: 2 manning the DJI Switchboard 1 was working at 'reception' (BAD [Offenders Reception Department]) 1 Officer in Charge 3 working in the department
Hired in staff from Securicor employed by the DJI	2	1 was working at BAD 1 working in the department
KMar (Royal Military Constabulary)	6	
Medical Services	1	
Total staff	16	

Table 1: The number of employees per services section which were present at the time the fire broke out at the Detention Centre Schiphol-Oost

3. Fire alarm system and fire alarms

The detention centre has a fire alarm system that consists of the following:

- Automatic fire alarms in all of the offices, corridors, lobbies, rooms/cells and voids above the cells;
- Manual fire alarms in the corridors and lobbies;
- Manual fire alarm panel at the KMar central switchboard;
- Subordinate fire alarm panel (auxiliary panel) at the staff office.

94 This is a group of guards who may be engaged on a flexible basis at the various locations of the Temporary Special Facilities Directorate.

There are two types of fire alarms: alerts produced via the manual alarm and alerts which use automatic detection (fire alarms). In the former case, the Fire Brigade is alerted directly via the Schiphol's emergency control room, without a time delay. In the second case, guards or the switchboard operator chooses whether or not to accept the alert. In the detention centre's fire alarm system, there is actually a delay built into the automatic alert system notifying the Fire Brigade. If the alert is accepted within one minute, the report is not automatically transmitted to the Fire Brigade (via Schiphol's emergency control room). After acceptance, a period of three minutes automatically commences. Within these three minutes, the guard can determine whether or not there is actually a fire. If it appears that there is no fire, the fire alarm system can be manually reset, which results in the system being returned to its normal setting and the report will not be transmitted to the Schiphol's emergency control room. If the fire alarm system is not reset within these three minutes, the report will then be automatically transmitted to the Fire Brigade via the Schiphol's emergency control room. This means that in the worst case, the Fire Brigade will be alerted with a delay of four minutes. Acceptance always occurs at a Switchboard, which may be in the relevant wing during the day as well. If a fire alarm is reported to the KMar central switchboard, the KMar central switchboard will be the one to take action and transmit alerts. It is the KMar switchboard's task to process fire alarms in the KMar Wing. The DJI Switchboard is charged with fire alarms for the DJI Wings.

4. Other fire fighting facilities

- Dry sprinkler system for each department in the ceiling space above the cells which can be placed under pressure by the Fire Brigade by connecting it to a water supply;
- Fire hose reels: three per wing (placed close to the Switchboard on the wing/team room);
- Emergency lighting;
- Emergency doors at the far end of each wing which, in principle, automatically release in the event of a fire alarm;
- Fire extinguisher at the Switchboard of every wing;
- Fire blankets at the Switchboard of every wing;
- Smoke and Heat Discharge system.

5. Details

The Detention Centre Schiphol-Oost is not equipped with a central cell door release: in the event of a fire, the cell doors do not automatically open. The cell doors do not automatically close either. There are no certified users of breathing apparatus among the staff[95]. A person using breathing apparatus is educated and trained to work with breathing apparatus masks. In an environment with a great deal of smoke, people can therefore breathe and work 'normally'.
The automatic emergency door release is turned off on every wing due to an excess of false fire alarms and the risk of escape by the cell occupants. According to the detention centre, the decision to switch this feature off was made in consultation with the Fire Brigade, the primary reason for which was that the Fire Brigade does not want to be hindered in its efforts by cell occupants. The Fire Brigade denies this.

6. Means of communication

The following means of communication were available at the detention centre: a Personal Alarm and Location System (PZI), walkie-talkies, telephones and intercom. The means of communication are described below.

Personal Alarm and Location System (PZI)
The guards all have a pager/beeper which is connected to the Personal Alarm and Location System. With the push of a button, the staff can use this to indicate to all of the other members of staff that help is required. The location will automatically appear on the screen. There is no

95 In this regard, the cell complex complies with the legal requirements. In other words, this is not required by law.

link between the fire alarm system at the KMar switchboard and the Personal Alarm and Location System. There is however a link between the fire alarm system at the DJI Switchboard and the Personal Alarm and Location System.
The Personal Alarm and Location System has been fully integrated into the entire detention centre since 10 October 2005. This means that all of the staff of all of the wings and from every organization are connected to this Personal Alarm and Location System.

Walkie-talkies
In principle, all of the guards have a walkie-talkie. Normally, there are three walkie-talkies present on A Wing, but on the night in question, there was only one, and the battery was flat. The KMar[96] and the staff of the Ministry of Justice are on different walkie-talkie frequencies[97]. From interviews and police reports,
it appears that walkie-talkies are not part of KMar's standard equipment.

Telephones (land lines and mobile)
There are land line telephones on the wings. In addition, the Duty Officers all have a mobile phone.

Intercom
Using the intercom, the cell occupants can contact the DJI central switchboard. The automatic fire alarm can also come into the DJI central switchboard via the intercom. The intercom-broadcasting system can be used by the staff at this switchboard to speak to cell occupants in an individual cell or as a group. This could involve the giving of instructions before a building is evacuated or to reach all of the people at a point of assembly (NIBHV, 2005).

In the event of a fire, an acoustic signal can come in via the intercom at the DJI Switchboard. When an acoustic fire signal comes in to the Switchboard, the staff at the Switchboard can no longer use the same intercom to address the people in the cells, or a group. This can only be done once the alarm has been reset.

7. Schiphol Buildings Fire Prevention and Fire Fighting Organization

The collaboration between the Schiphol in-house Fire Brigade and the Haarlemmermeer Municipal Fire Brigade is based on a covenant. Action takes place under the responsibility of the Haarlemmermeer Municipal Fire Brigade. This means that the commanding officer with authority is provided by Haarlemmermeer. On 1 March 2006, the Schiphol Fire Brigade became the party responsible for Buildings Fire Prevention and Fire Fighting. As a result, there is a second commanding officer involved in this fire fighting unit, supplied by the Schiphol In-House Fire

Brigade. In the event of small-scale fires, this unit must be able to act independently.

8. Alert[98]

When the Schiphol Fire Brigade is alerted, it is standard procedure that the required vehicles are alerted and also that the Amsterdam Regional Emergency Control Room (RAC) is notified. A decision to determine which vehicles will be used is made on the basis of emergency response plans. For the detention centre, it was agreed that the potential vehicles which will be sent out for a fire are: the appliance 641 and the rescue engine 686 from Post Sloten and the hydraulic platform from Hoofddorp. The Regional Emergency Control Room must also be notified. For medium-scale fires or smaller, the Schiphol's emergency control room handles the coordination unless the Officer in Charge determines otherwise.

96 KMar and the Police use the C2000, a new communication system designed for the emergency services.
97 In its training materials for in-house emergency and first aid workers, the NIBHV says the following with regard to walkie-talkies: 'When using a walkie-talkie, you cannot respond immediately: you must first wait until you receive permission to do so. This is done by saying the word 'over'. When you end a conversation, you say 'over and out'. […] It is necessary to practice the procedure for communicating by walkie-talkie often.
Only then will you be able to use the walkie-talkie properly in the event of an actual incident (NIBHV, 2005).'
98 This was the situation at the time of the fire and has since changed.

Chain of command[99]

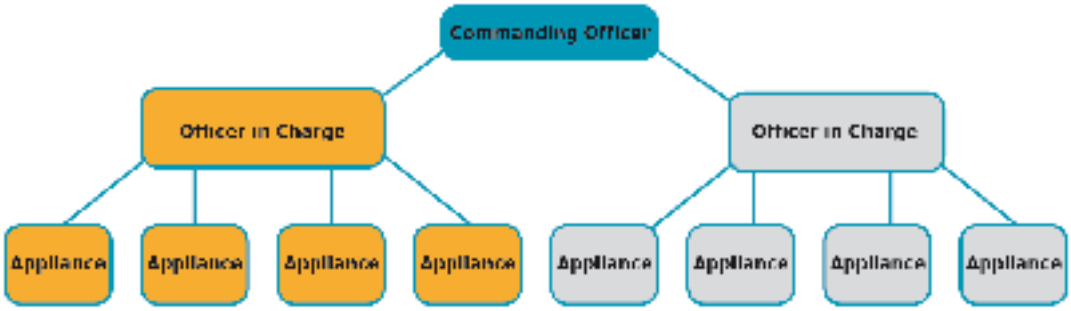

Figure 1: Executive Structure of one OvD (Officer in Charge) (orange) and the additional executive structure after scaling up (grey) of the same situation to the HOvD (Commanding Officer). It should also be mentioned here that the scaling-up capacity adds to the existing executive structure, yet does not change it

In general, the following applies:

- There are 6 fire fighters manning an appliance: one commanding officer, one driver, and 4 firemen[100].
- A commanding officer provides supervision to his unit: the staff manning an appliance (TS) and any other emergency vehicle (a hydraulic platform, a van, a rescue engine).
- An Officer in Charge (OvD) acts as operational manager in the event of the deployment of two to three commanding officers (including their units); if the Commanding Officer takes over, an Officer in Charge may provide supervision to two to four commanding officers.
- The commanding officer of the first TS acts as the deployment supervisor until the Officer in Charge arrives at the scene.
- A Commanding Officer (HovD) handles the operational management if there are several OvDs.
- The first Officer in Charge acts as the deployment supervisor until the Commanding Officer arrives at the scene.
- The Commanding Officer acts as the deployment supervisor until the On-Scene Commander arrives at the scene.

Specific to Schiphol:

- the Airport Fire Officer (AFO) acts as OvD until the Haarlemmermeer OvD arrives on the scene. The AFO is the liaison officer with the Schiphol In-house Fire Brigade. He continues to act in this capacity after the arrival of the OvD.

9. Scaling up

The status assigned to a fire has consequences for the alert. In general, the following procedure is employed[101]:
A small-scale fire means that a minimum of the following Fire Brigade units will be alerted:

- 1 Appliance with a commanding officer

Scaling up to a medium-scale fire means that the following Fire Brigade units will be alerted:

- 1 Officer in Charge
- 2 Appliances with a commanding officer

99 Source: report 'Grote brand aan de Breestraat te Opmeer op 19 april 2003 (Large-scale fire on Breestraat in Opmeer of 19 April 2003)', Project number 421N0139, NIBRA;
100 Sometimes there are as many as 7 people manning an appliance at the Amsterdam Fire Service.
101 This procedure may deviate from that used in the Amsterdam region.

Scaling up to a large-scale fire means that a minimum of the following Fire Brigade units will be alerted:

- 1 Commanding Officer
- 1 Officer in Charge
- 3 Appliances with a commanding officer

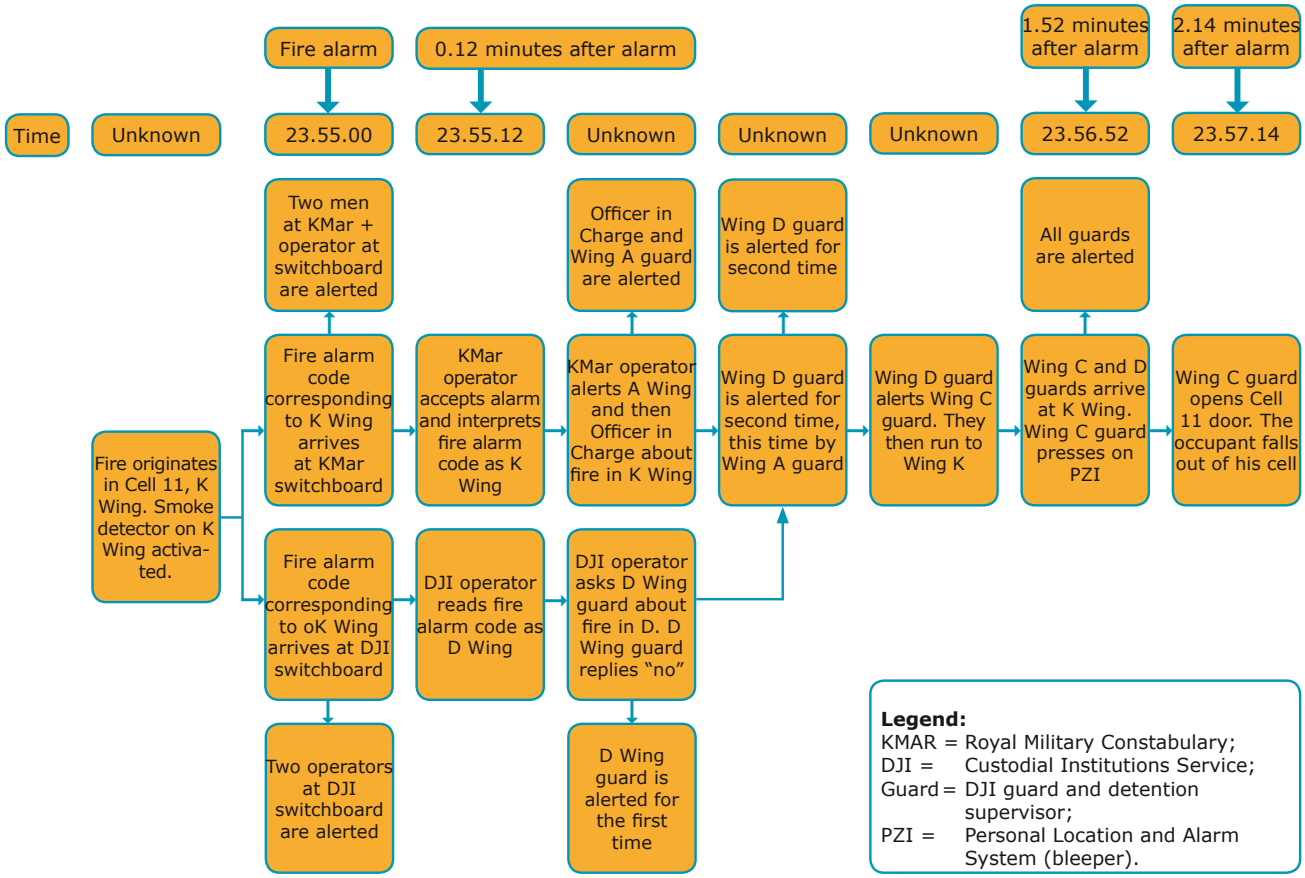

Figure 2: Schematic diagram of the alert transmitted to staff at the Detention Centre in the night of 26 October 2005 after the automatic fire alarm

APPENDIX 22 SUMMARY OF DETAINEES INTERVIEWED FROM J AND K WING

On 11/11/05, the Chairman of the Dutch Safety Board phoned the Minister of Justice requesting that detainees held on J and K Wing not be deported until the Safety Board had had a chance to interview them.

Likewise, on 11/11/05, the Safety Board received a copy of the crisis list from the Detention Centre Schiphol-Oost with all the names of cell occupants on J and K Wing. After seeing the list, it turned out that there were 85 detainees on J and K Wing of the Detention Centre Schiphol-Oost on the night of 26 and 27 October, 43 of whom were on K Wing and 42 on J Wing. The names of cell occupants from these wings on the crisis list appear to be correct up to the time of writing. However, the list contained a number of names for whom the term "deported" or "lifting of detention order" had been added. This concerned 3 cell occupants on K Wing and 7 on J Wing. To summarize, on 11/11/05, as far as the Safety Board was aware, a total of 10 persons (3 from K and 7 from J) was untraceable and 11 individuals had died.

On 01/03/06, the Safety Board received the files from the Custodial Institutions Service (DJI) for the "Relief and After-care" part of the investigation[102]. These files contain information about the after-care of all detainees; additionally, an indication is given of the date on which detainees were transferred, deported or their detention order lifted. After examining the files made available by the DJI, the following conclusions can be made (see also figure 1):

J Wing (42 detainees in all):

- 10 persons deported or detention order lifted prior to 11/11/05 (7 of whom known from crisis list)
- 6 persons deported or detention order lifted after 11/11/05
- 2 persons deported or detention order lifted after 11/11/05, with respect to which attempts had been made to interview them[103]
- 24 persons interviewed by the Safety Board

K Wing (43 detainees in all):

- 11 persons deceased
- 4 persons deported or detention order lifted prior to 11/11/05 (3 of whom known from crisis list)[104]
- 28 persons interviewed by the Safety Board

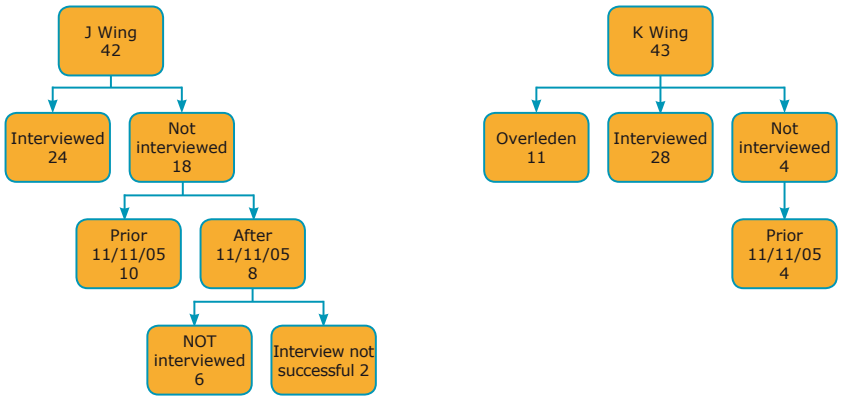

Figure 1: Summary of detainees on J and K Wing at the Detention Centre Schiphol-Oost interviewed by the Safety Board.

102 The process of reception and after-care was reviewed up until 3 months after the fire; for that reason the files had not been previously requested.

103 One detainee indicated an unwillingness to participate in the interview with the Safety Board and was deported on 30/11/05. The other detainee was in transit on the first attempt, and the second time, the interpretation headset was not working. The detainee was deported on 24/11/05.

104 As a result of an article in the national daily, *de Volkskrant*, on 7 April 2006, it was revealed that one of the four individuals was still in the Netherlands. This detainee was later interviewed by the Safety Board.

APPENDIX 23 FIRE LOAD

Object	Material	Weight (kg)
Wall panels	HPL	520
Desk panels (2)	Plywood	30
Wall unit	Plywood	50
Ceiling and wall frames	Pine	370
Floor	Plywood + linoleum	400
Wall of technical shaft	Plywood	160
Doors and door frames	Pine	160
Other flammable material	Misc. plastics and textile	130
TOTAL		1.820

Table 1: Estimated weight of cell interior and cell furnishing

According to Table 1, the cell contains 1,820 / 13 = 140 kg of flammable material per m^2 of floor space. This is a considerable amount in comparison with the guidelines of the Fire Safety Scheme for Cells and Cell Blocks, namely 5 to 20 kg pinewood equivalent per m^2. This difference can be partly explained by the large quantity of HPL, plywood and pine which was incorporated in this temporary construction.

The Fire Safety Scheme relates the fire load of a cell to the fire movement (WBDBO) requirements for partition structures, in such a way that the fire resistance, in minutes, must be the same as the fire load expressed in kg pinewood equivalent per m^2 of floor space.

For the cells on K Wing, the fire load of which was on the order of 140 pinewood equivalent per m^2, this means that the partition structures, including door and window, should have a fire resistance of more than two hours. This requirement is significantly more stringent than the 20 minutes WBDBO which the Building Decree sets down for non-permanent constructions.

APPENDIX 24 CLASSIFICATION OF FIRE GROWTH RATES

The American National Fire Protection Association (NFPA) uses a classification of fires on the basis of the speed at which they develop, whereby a differentiation is made between slow, medium, fast and ultra-fast fire growth rates.

The diagram below from the NFPA[105] depicts this same classification. The X axis indicates the time in seconds from the moment the fire ignites; the Y axis indicates the heat release of the fire in kilowatts.

The broad line in the diagram indicates the development of the combustion heat as measured during the third cell fire test carried out by the Safety Board. This shows how the cell fire, after acceleration in the fourth minute after ignition, developed into the 'ultra-fast fire growth' category.

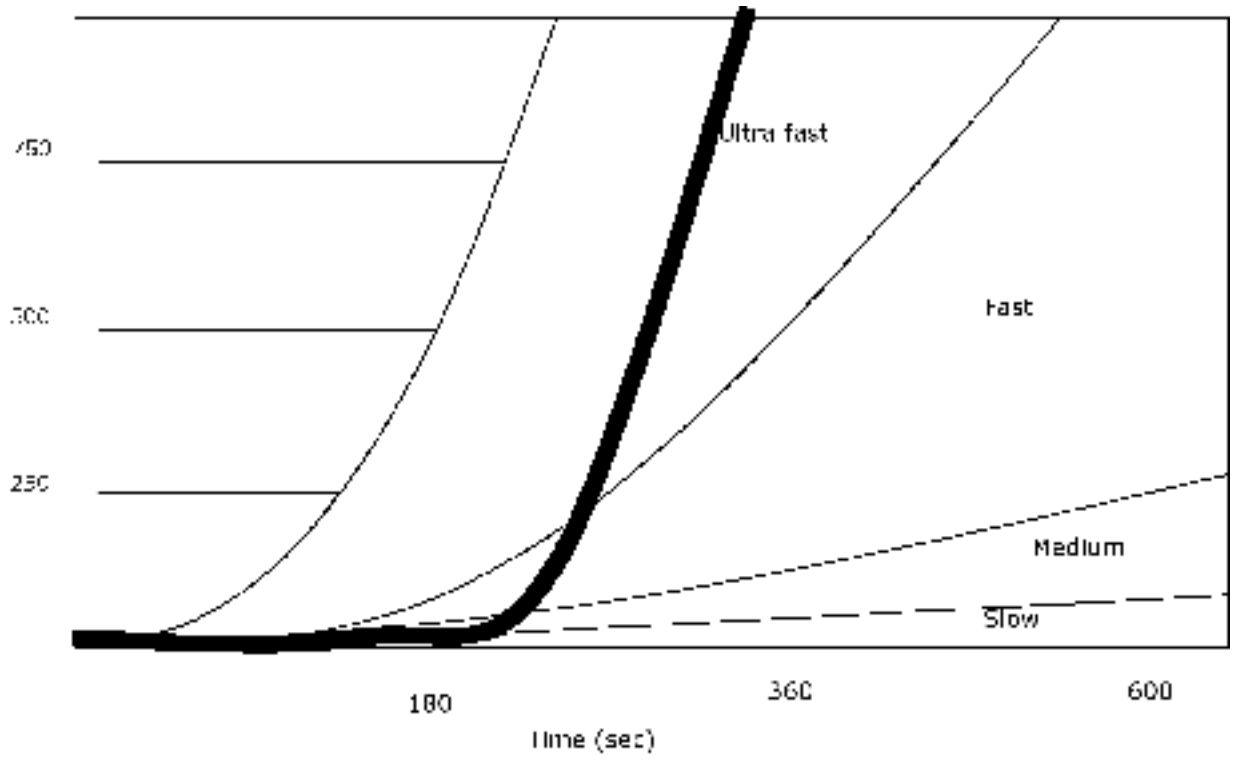

Figure 1: *'Fire growth rates' according to the NFPA*
Broad line: combustion heat curve for cell fire test 3

105 User's manual for NFPA 921 - National Fire Protection Association

APPENDIX 25 COOPERATION BETWEEN DJI[106] AND KMar[107] AND EVALUATION OF EMERGENCY AND FIRST-AID ORGANIZATION

1. Introduction

This appendix looks into the relationship between DJI and the KMar in the detention centre and on the basis of the findings, a conclusion will be drawn about the integration of the two organizations into one during a crisis.

2. Relationship between DJI and KMar in general

In October 2005, the DJI and KMar operated as separate organizations in the detention centre. The DJI is the tenant. Part of the building is sub-let to the KMar by DJI: B Wing and the central desk on F Wing. As far as the daily work with cell occupants is concerned, neither the director of the detention centre nor the superior officer of the KMar in the complex have authority over the other. In emergency situations, the site manager of the DJI has overall responsibility and can command KMar employees in this capacity. All this is explained in more detail below.

The detention centre initially contained 124 cells, managed by the KMar. KMar has a police presence at Schiphol airport. Its remit includes enforcement of public order, assistance, crime prevention, projects to prevent common forms of criminality, traffic control, taking down statements and investigating criminal offences. KMar is also charged with border patrol at Schiphol. This means checking individuals entering Dutch sovereign territory (Schengen borders). Part of its border control tasks involves the investigation of criminal offences, resulting in the arrest of suspects, but also enforcement of sentences.
In enforcing legislation pertaining to aliens, the KMar looks after the initial reception of asylum seekers who request asylum at the border. In addition, the KMar is responsible for the transfer of deported aliens to foreign authorities and the reception of Dutch nationals not desired by foreign countries.

The situation in which cells were exclusively used by KMar changed rapidly. In the period following the opening of the detention centre, there was less need for cell capacity on the part of the KMar, whilst at the same time demand from the DJI for cells increased. Regardless of the precise numerical ratio, cohabitation was a fact: both organizations used their own parts of the detention centre for their own purposes. By the end of 2003, there was a need to formalize the arrangements for the division of responsibilities and put them in writing. This was done in the form of a user agreement between DJI and KMar.

The user agreement set out the following arrangements. Final responsibility for the management of the detention centre lay with the site manager appointed by DJI. The same site manager was also in charge of planning for disasters and emergency response. It was additionally agreed that all actors working in the complex would be able to carry out the processes for which they were responsible. The director was in charge of activities relating to the Ministry of Justice. The representative of the KMar had overall operational responsibilities for activities relating to KMar and was responsible for their own police cells, the wing for detainees awaiting transit, the observation wing and the emergency control room.

3. Findings in respect of the responsibilities of DJI and KMar in relation to the fire

The Safety Board was unable to establish any relationship between the division of responsibilities between the DJI and KMar and the outcome of the fire. However, there is a relationship between

106 Custodial Institutions Service
107 Royal Military Constabulary

the conduct of the employees of both organizations and their division of tasks. This had no effect however on the outcome.
During interviews it was stated that the attention of both the DJI and KMar focussed in the first instance on their 'own' cell occupants. This was reflected in the actual conduct of the employees. The DJI employees were responsible for cell occupants under the jurisdiction of the DJI, including those on K and J Wings. The KMar employees focussed their efforts on occupants of B Wing. In addition, KMar employees also contributed to action taken in the DJI Wings. That KMar employees did not free any cell occupants applies in equal proportion to most DJI employees (except the two individuals who actually opened the cells) and this could not have been expected of them.

APPENDIX 26 MANAGEMENT SUMMARY "FIRE SAFETY OF DETENTION CENTREES (MODULAR CONSTRUCTION)"

Drawn up by: VROM Inspectorate[108]
Inspectorate for Public Order and Safety
Labour Inspectorate
Date: 27 July 2006

1. Introduction

Following the fire at the Detention Centre Schiphol-Oost on 26 October 2005, the Dutch Safety Board started an investigation into the cause and the background of the fire.
Both the Dutch House of Representatives and the Safety Board put forward questions regarding the fire safety in other penitentiary institutions (PIs). This investigation was carried out jointly by the government inspectorates involved (Labour Inspectorate, Inspectorate for Public Order and Safety and VROM Inspectorate) under the direction of the VROM Inspectorate, in consultation with the Safety Board, with the intention of avoiding doubling and unnecessary burden caused by supervision. In consultation with the Safety Board, it was decided to give priority to investigating cell units (modular construction), because of the many similarities with the Detention Centre Schiphol-Oost. This not only concerns detention centres with a construction which is exactly the same as the Detention Centre Schiphol-Oost (built on the basis of metal sea containers), but also modular constructions such as wooden frame constructions and prison boats. These cell units can be temporary as well as permanent in nature. This type of detention centre was used in 24 penitentiary institutions in the Netherlands (from a total of 103). The results of this investigation have been made available to the Safety Board.

2. The aim of the investigation

- To gain a general insight into the fire safety of (temporary) cell units in the Netherlands (the national picture) and to learn lessons from this exercise. On the basis of the findings, recommendations need to be drawn up to improve fire safety and promote compliance with the regulations. This will support the agencies responsible (the RGD as owner/manager, the DJI as user and the municipalities in their supervisory capacity) in performing their tasks in this area.
- To obtain an answer to the question as to whether fire safety has been sufficiently safeguarded, partly after the actions of the Government Buildings Agency (RGD) as well as the Custodial Institutions Service (DJI) after the fire at Schiphol-Oost (is it safe and will it become safe?). If necessary this will be brought about by intervening as a third party vis-à-vis the agencies responsible, via appropriate instruments such as compliance assistance[109] or through (requests for) enforcement.
- To gain an insight into the possible obstacles to improving fire safety (partly based on new insights).

3. The approach and the method of the investigation

In the first quarter of 2006, the investigation was carried out jointly by the three aforementioned government inspectorates with the support of PRC Bouwcentrum consultancy. The added value of these collective efforts in the investigation by the three government inspectorates is, in addition to reducing the supervisory tasks, primarily content-related when it comes to the combined investigation of the architectural, user and organizational aspects of fire safety.

108 Inspectorate of the Ministry of Housing, Spatial Planning and the Environment
109 Safety Board remark: Compliance assistance is the provision of support to other government agencies and businesses, in the form of information and explanation with respect to statutory regulations, in order to help these organizations to understand and to comply with these.

Partly due to the fact that immediately after the fire, a large number of actions were undertaken by the RGD, the DJI and the municipalities/Fire Brigade, it was decided to carry out the investigation in phases.

The first phase consists of two components:

- An investigation and analysis of the general information which is available on (the safeguarding of) the fire safety for penitentiary institutions, in particular from the RGD and DJI.
- Investigation of 5 PIs with cell units, with an investigation of municipal records and on-site inspections.
  The chosen locations were at Lelystad, Doetinchem, Balkbrug, Zeist and Rotterdam. This was a selective sample with all types of cell units (boats, wooden frame construction and metal sea containers).

For the investigation of the PIs, an integral assessment framework was set up, which was implemented in the examination of documents at the municipalities and the inspection of PIs. The assessment framework is based on the assumption that, for fire safety, a coherent, integral approach is needed with respect to the relevant aspects: a combination of architectural, technical, user and personnel components.
The legal framework (Housing Act, Building Decree, Fire Brigade Act and Health & Safety at Work Act) and the Fire Safety Scheme for Cells and Cell Blocks of the Ministry of the Interior and Kingdom Relations form the starting point for the assessment framework.
With the aid of this assessment framework, it was possible to get a picture of the prioritised assessment aspects and the shortcomings identified. A shortcoming is understood to mean the underperformance of an aspect in relation to the legally required standards.

The first phase of the investigation was concluded with this report on the results of both aforementioned components and also contains recommendations for the improvement of fire safety and a proposal for follow-up actions in the investigation.

4. The results and conclusions of the investigation

1. Conclusions to the question: "Is it safe"?

For the cell units inspected in penitentiary institutions, there is no question of an inherently unsafe situation (no acute danger) for detainees and personnel.
However, many pertinent shortcomings have been identified which are detrimental to optimum safety levels and which should be solved as soon as possible in order to safeguard safety.
In view of the selective sampling of cell units investigated, the findings can be described as being representative for the total population of those penitentiary institutions with modular construction.

- Set against the legal minimum level, many pertinent shortcomings were identified in the PIs inspected. The focus is on the architectural and personnel aspects (Emergency Response (BHV)), followed by user requirements and fire brigade preparations.
  As far as architectural aspects are concerned, it was often found that the materials used and the construction of walls, ceilings, etc., with respect to fire resistance and smoke development could not be established with any certainty. This still requires more intensive investigation by the RGD and the municipalities.
  The sum and the nature of the shortcomings at the PIs show that great efforts will be needed to bring all aspects up to the legal minimum requirements. In particular, the architectural shortcomings identified require a great deal more investment.
- The filing system kept by the municipalities and those with overall responsibility for fire safety, the DJI and RGD, is not in order and has an adverse effect on the safeguarding of fire safety.
- The inadequate observance of the requirements with respect to fire safety has been primarily caused by a lack of fire safety awareness and specific know-how on the part of those with overall responsibility, the RGD and DJI, partly based on the fact that it was assumed that the presence of an occupancy permit was a guarantee for the total fire safety of the institution.

- In general, in terms of both quantity and quality, supervision of the occupancy requirements by the Municipality was not carried out adequately enough.
  Supervision was not integrated enough, i.e. supervision was carried out on the basis of the separate aspects (building, use and organization).
  For the PI with adequate municipal supervision, compliance at a higher level was manifest.
- The lack of adequate cooperation and coordination between the owner of the building (RGD), the user (DJI) and the municipalities served as an obstacle to an adequate and integrated approach to fire safety in the PIs.

2. Conclusions to the question: "Will it be safe"?

Measures for improvement have since been planned and initiated by the RGD and DJI. As such, efforts to guarantee fire safety are moving in the right direction, but these measures must be effectuated in a proper and consistent manner.
These measures are still too sector-related in nature and lack an approach based on an all-encompassing integrated vision and approach (both in relation to the substance as well as the organization) so that safety can be guaranteed in the future.

- Plans for improving the organization of emergency and first aid teams provide a proper basis from which solve the shortcomings identified in this area of fire safety.
- The fire-safety scan (BVS) developed by the RGD is an effective instrument for assessing fire safety, but it is still too heavily focussed on the architectural aspects rather than user and personnel aspects.
  Using a BVS which encompasses all aspects of fire safety, fire safety can be monitored from the design stage, during construction and during use by the DJI. This is not currently the case.
- For reasons of fire safety, modular construction, in the form of pre-fabricated units connected to each other, is deemed in an architectural respect, in combination with the nature and housing regime of detainees, to be an intrinsically vulnerable method of construction in comparison to traditional construction methods in steel/concrete, since the risk of fire is greater.
  One feature of this style of construction is the presence of voids between the separate units which act as funnels in the event of fire.
  The fire resistance and fire compartmentalization, which are set out in the performance requirements of the Building Decree, appear difficult to guarantee, both now and in future. The effects of (minor) architectural deficiencies can be major in the event of the rapid spread of fire.
  This is the case in particular when modular construction consists of two layers (i.e. prefabricated units on top of each other with voids in between) and structures which have a shell space around connected units (metal sea containers, where there is a opening between the crawl space and the space above the ceilings).
  If, for any particular reason, this type of construction is selected, this requires a greater emphasis on adequate organizational and fire-safety facilities and strict compliance with the requirements.

3. Conclusions with respect to obstacles to the improvement of fire safety

The legislative frameworks which play a role in fire safety are sector-related (i.e. building regulations, health & safety legislation, fire brigade legislations, etc.). This makes the fire safety schemes a complex matter and there might be a tendency towards a blinkered vision in implementation (both in licensing procedures as well as in supervision of the requirements).
The lack of uniformity in explanation and application of legislation is an obstacle to the improvement of fire safety.
Solutions to the obstacles relating to the issuing of permits are partly being addressed with the soon-to-be implemented Environmental Permit and the Occupancy Decree (due to come into effect as of 1 January 2007).
Additionally, many of the shortcomings identified have to do with the inadequate system for managing and monitoring the fire safety within the PIs. In other words, implementation in this area by the RGD and DJI is not adequately regulated.

5. Recommendations for the fire-safety of cell units

Recommendations for RGD and DJI

1. The laudable measures for improvement being proposed need to be carried out energetically. In particular, improvements to the emergency and first aid organization (BHV) need to be prioritized. On the basis of the Health and Safety Act and the Health and Safety Decree, the employer, partly on the basis of Risk Identification & Evaluation (RI&E), must provide an organizational and material framework in the area of emergency response (BHV). Evacuation in the event of major occurrences is an essential aspect of this.
   The DJI needs to bring about a situation in which all penitentiary institutions have an adequate RI&E, in addition to a well-organised emergency and first-aid team. To this end, the DJI can set up a model or sector-related RI&E, on the basis of which implementation by institutions can quickly follow. If necessary, the health and safety services can be called upon to offer advice.

2. In order to develop an all-round approach and vision (both content-related and organizational), the fire safety programme already proposed (integrated plan of action to safeguard fire safety) must be prioritized.

3. The know-how and the fire-safety awareness amongst the RGD and DJI needs to be improved upon. Only then will staff be alert to potentially hazardous situations.

4. In order to guarantee proper standards of fire safety in the future, a (control) mechanism will have to be introduced which will ensure that all aspects which have a bearing on fire safety are harmonized and that a system will be put in place that safeguards this. Possible options include:
   a. An adequate RI&E which contributes to a well-thought out, institution-wide fire-safety procedure.
   b. The appointment of a safety manager, who oversees the operation, organization and quality of the buildings.
   c. Centralized coordination of licensing applications. RGD will look into how this can be realized.
   d. Combining DJI and RGD communication with respect to licensing applications. Only in this way can the balance between the different fire safety aspects be properly monitored.

5. Potentially, the Fire Safety Scan (BVS) is a good instrument to evaluate and monitor fire safety. The BVS then needs to be developed and improved upon to become a fully-fledged instrument which can be used to integrally assess architectural, occupancy and personnel aspects.
   Subsequently, the BVS needs to be carried out on a frequent basis.

6. The filing systems at both the RGD and DJI (plus all the separate PIs) need to be properly organized.

7. For 3 of the 5 PIs investigated, smoking is allowed in cells. Sources (i.e. materials) for starting a fire are likewise present in cells (microwave, kettle and TV). This only increases the risk of fire, a risk that can, for the most part, be eliminated. For this reason, policy regarding this aspect needs to be evaluated and standardized by DJI.

8. Explicit consideration needs to be given to the fact as to whether detention centres in modular construction, in the form of pre-fabricated units connected to each other, which have no temporary but a permanent function, are desirable, particularly in view of their intrinsic vulnerability in terms of fire safety. This is especially true for modular construction with two layers or structures with a double shell space.

9. In order to bring about an adequate, all-round approach to fire safety for PIs, coordination with the municipalities needs to be improved by the RGD and DJI.

Recommendations for municipalities/Fire Brigade

10. Supervision of PIs needs to be improved both in terms of quality (complete, integrated and in-depth) and quantity (increasing frequency). Effective cooperation between the Municipal building and housing inspectorate (BWT) and the Fire Brigade is a precondition for this.

11. Ensure that contingency fire fighting plans are available and up-to-date and contain the necessary information for providing an adequate response.

12. The filing systems at the municipalities/Fire Brigade need to be properly organized.

Recommendations for Ministry of Interior and Kingdom Affairs and RGD/DJI

13. In order to improve quality and standardisation in implementation, a new fire safety concept for cell concepts is required to be formulated as an ongoing process of the Ministry's current "Fire Safety Scheme for Cells and Cell Blocks". In these guidelines, the architectural, occupancy and organizational aspects together determine the fire safety at the design, implementation and management stages of the building work.
    All aspects can be considered in relation to each other and different fire safety levels can be established.
    This vision should likewise be communicated to designers, contractors, operators and users of buildings.

Recommendations for VROM

14. In the 2003 Building Decree, articles 2.109 a reference is (unintentionally) missing to 2.106 with respect to the fire movement requirements (WBDBO) for fire compartmentalization for temporary structures. It is recommended that this shortcoming be redressed in the next revision of the Building Decree.

15. Consider whether specific additional requirements must be drawn up for buildings and structures consisting of prefabricated units connected to each other.

Recommendations for follow-up actions of the investigation

1. Verified against the objectives of the investigation, the conclusion is that the first phase, including a sample taken amongst 5 PIs, has provided a sufficiently clear picture of the fire safety of cell units (both with respect to the specific content-related aspects as well as the representativeness for the complete category of PIs with (temporary) cell units).

2. The government inspectorates assume that those with overall responsibility for fire safety, the RGD and DJI (in coordination with the front-line supervisors of the municipality in question), will follow the recommendations for (structural) improvements in fire safety. In view of the findings of this phase of the investigation, there are enough instructions.

3. The government inspectorates do not see any reason to carry out a follow-up investigation into the fire safety of penitentiary institutions, but the intention is to check levels of fire safety again in a year's time (2007). In the intervening period, those with overall responsibility will be given the opportunity to implement the recommendations and improvement plans. In 2007 the effects of these improvements will be apparent.

4. In view of the fact that these improvement plans and measures undertaken by those with overall responsibility relate to all penitentiary institutions (and not just to the temporary cell units which have been investigated here), the government inspectorates intend to focus the investigation in 2006 on all PIs.

5. Partly on the basis of their know-how and experience, it is the intention of the government inspectorates to help bring about improvements (in the safeguarding) of the fire safety in respect of those with overall responsibility and the front-line supervisors by means of compliance assistance. Together, the necessary activities and tools will be developed (e.g. workshops for municipal building and housing inspectors/Fire Brigade, support in the development of an integrated fire safety scan by the RGD and DJI, support in the setting up of the emergency response organization and the RI&E).

APPENDIX 27 SUMMARY OF REPORT OF THE INDEPENDENT COMMITTEE FOR MUNICIPAL RESPONSIBILITIES IN RESPECT OF THE SCHIPHOL CELL FIRE

Title	Fire in the Detention Centre Schiphol-Oost, an evaluative "quick scan".
Drawn up by	Independent Committee for municipal responsibilities in respect of the Schiphol cell fire (J.A.M. Hendrikx and J.D. Berghuijs).
Published	15 December 2005.

1. Introduction

By virtue of Art. 10g of the Disasters and Major Accidents Act (WRZO), municipal authorities have a duty to instigate an investigation into a disaster or major accident which has taken place within their municipal boundaries. If the Dutch Safety Board itself instigates an investigation, the obligation to investigate no longer applies. Municipalities still have the authority however, to instigate their own investigation.

After the fire that took place at the Detention Centre Schiphol-Oost, the Municipal Executive of Haarlemmermeer deemed it of sufficient importance to find out as quickly as possible how its municipal services had functioned so that they may learn any necessary lessons from this. Although the aims of the Municipality and the Safety Board ran in parallel, the executive was of the opinion that the Safety Board's timetable (to complete the investigation within a year) was too long for the Municipality to act immediately on any shortcomings and/or measures for improvement. With this in mind, the municipal council decided to carry out an investigation (a "quick scan") into the execution of its own municipal responsibilities with respect to fire safety and fire fighting capability.

For this reason, on 10 November 2005, the Municipality set up its own "Independent Committee for municipal responsibilities in respect of the Schiphol cell fire". The committee consisted of J.A.M. Hendrikx and J.D. Berghuijs. This appendix describes the investigation carried out by the Hendrikx Committee and the way in which it worked. In addition, this appendix contains sections 8 and 9 of the report, that is, the concluding observations, conclusions and recommendations, which have been included in full.

2. Remit of Hendrikx Committee

In the council proposal for the instigation of an independent committee, the assignment that the Hendrikx Committee was given by the Municipality was articulated as follows:

> *"… The investigation will focus primarily on the question as to what lessons can be learned as a result of the fire in the detention centre. The investigation must reveal to what extent the municipal tasks and responsibilities were properly acted upon in respect of fire safety and fire fighting capability and in what way these can be improved upon. …"*

3. The approach and working procedure of the committee

The investigation carried out by the Hendrikx Committee has been designated a "quick scan", because the investigation was of a short duration. For this reason, the committee was unable to arrive at a full and detailed reconstruction and the truth of all the events that took place during the night of 26 and 27 October and the period preceding this. This investigation aims to provide a (provisional) judgement with respect to the effectuation of municipal responsibilities and learning lessons for the future.

For the purposes of the investigation, the committee took notice of all the available written information including the statement of facts provided by the Municipality. On the basis of these documents, the committee examined these more closely with respect to essential components. Partly on the basis of this, the committee requested additional information, including information with respect to the entire licensing procedure and enforcement. In the process of formulating its judgement and establishing the lessons to be learned, the committee not only focussed on the actual situation with respect to K Wing, but also against the background of the lessons learned from a previous fire (2002) and the recommendations of the Nibra investigation carried out on the request of the Fire Brigade.

Taking into account the municipal responsibilities, the committee established an investigative framework on the basis of which interviews were conducted with those directly involved, that is, Haarlemmermeer municipal officials, the Fire Brigade, municipal executives responsible and Nibra investigators. The committee did not hold any interviews with guards, other staff present and parties involved in the licensing procedure, other than those mentioned previously.

The committee likewise paid a visit to the detention centre, in order to get a better picture of the incident scene and the fire. The opportunity was taken to hold a short meeting with the site manager of the detention centre.

With regard to the alarm system, the committee requested more detailed information from the Schiphol's emergency control room. The Schiphol's emergency control room provided answers to a number of subsequent questions that the committee had.

It was not possible for the committee to gain access to the logbooks held by the fire alarm centre at the detention centre, because these were seized as part of the criminal investigation.

Because it lacked specific powers, the committee was restricted to the information available from the Municipality of Haarlemmermeer.

4. Structure of the Hendrikx Committee report

The report of the Hendrikx Committee has been structured as follows. In addition to an introduction, the remit of the committee, the concurrence of investigations and accountability for the committee's working procedures (Chapters 1 to 4), the report contains a section on general observations with respect to aspects such as division of responsibilities, the fire safety concept and conceptualisation (Section 5), a section on pro-action and prevention (Section 6) and a chapter on preparations and containment (Section 7), in which sub-conclusions are drawn and recommendations made. In Section 8 (Concluding observations) and Section 9 (Conclusions and recommendations), the findings of the Hendrikx Committee are summarized.

5. Hendrikx Committee: Concluding observations

"At the current time, there is no clear picture of how exactly the fire started and spread before the Fire Brigade arrived on the scene of the incident. Much of the available information, necessary for the criminal investigation or for the Dutch Safety Board, was not passed on to the Committee. More information will become available at a later stage about how the fire came about (time, place). As stated previously, an essential pre-condition for a properly functioning fire safety concept is the 30-minute fire resistance requirement for each cell.
It is not known how much time elapsed between the start of the fire and its discovery. If there is not a considerable time difference, the conclusion might be that the fire resistance was not 30 minutes (from the start of the fire). The interim report of the Safety Board (9 December 2005) specifies that there was a fire that" developed extremely quickly". Further technical analysis is required into the construction used (structure and systems, materials used, method of actual implementation, whether or not this was at odds with the commission or building permit). That investigation is not only of great importance in respect of similar facilities elsewhere, but also because of the question as to whether persons should be accommodated in such structures in the conditions that have been described. In other words, can the building still be used as long as an independent enquiry has not demonstrated that use of the building, under conditions still to be determined, can be justified? In the light of various technical reports relating to "fire safety" for

this type of building, then a positive opinion has to be doubted in an increasing degree. On the basis of the current know-how and the precautionary principle, in such cases, it should be taken for granted that the minimum requirement should be that automatic sprinkler systems be fitted as a standard.
Instigating such an investigation (continuation of occupancy under conditions still to be determined), would be of benefit to all parties. This is true not only for the owner / operator of the complex or the commissioner for such objects, but also for the Municipality as part of an active monitoring and enforcement policy. This joint responsibility should, as a matter of course, lead to coordinated thinking and actions, certainly now that, in this case, it involves communication between two tiers of government. The committee regrets the fact that the necessary coordination of activities was not successful and gave rise to an administrative conflict.
The central question is as to whether, in the light of the preliminary findings of the investigation, it is possible to use these types of buildings in a "fire-safe" manner. In the first instance, a judgement on this falls under the responsibility of the owner/operator. A judgement is also ascribed to the Municipality in view of its responsibilities in relation to buildings and the use of buildings (fire safety concerns). Where there are differences of opinion, the judgement of the courts can be sought.
If a decision is made to continue temporary use of the buildings and no significant constructional changes are made, attention must – in conformity with the fire safety concept and the occupancy permit - focus in full on:

- System of direct alarm (no delays);
- Proper access to the institution by emergency service vehicles;
- System of unlocking cells;
- Practicing up-to-the minute evacuation plans;
- The presence of an effective emergency and first aid organization.

The committee wishes to underline the importance of these elements, because these factors determine to a large degree the speed and adequacy of the response of the emergency services, regardless of the preventative fire-safety measures."

6. Hendrikx Committee: Conclusions and recommendations

"The committee concludes that the Municipality of Haarlemmermeer carried out in all reasonableness those responsibilities which can be expected of a municipality in the licensing procedures for the Detention Centre Schiphol-Oost. The Municipality also operated an active monitoring and enforcement policy. The fire fighting response of the Fire Brigade was correct and proper in the eyes of the committee. Nevertheless, this did not result in such a dramatic fire being prevented.

In the realization of the J and K Wing of the detention centre, the recommendations of Nibra following the 2002 fire (fire-resistant partitioning, detection) were in any event followed as part of the licensing procedure and incorporated into the drawings. The committee was unable to establish whether these were correctly implemented, but has no firm reason to doubt this.
If the automatic sprinkler system (indicated by Nibra) had been fitted, which had been recommended for C Wing after the fire in 2002, it could have been expected that this would also have been installed on J and K Wing which were licensed at a later date. The spread of the fire as indicated in the interim report of the Safety Board would probably have developed along different lines otherwise. It is recommended that the Safety Board validates such a hypothesis in its detailed investigation into the truth of events.

Despite the mainly positive judgement with respect to the active way in which the Municipality undertook its responsibilities regarding fire safety in the detention centre, there are always aspects which can be improved upon, especially in the retrospective knowledge after such harsh observations. As for learning lessons for the future, we have therefore not hesitated to point these out in a critical way and have presented these in the various sections of the report. The committee has decided not to repeat all recommendations in the report in this section.

The committee invites the municipal executive of Haarlemmermeer to draw up a plan of action containing a response to the recommendations of the report with proposals for improvement where necessary, as well as to indicate the period in which these proposals for improvement will be implemented.

General recommendations
We would like to cite a number of general recommendations more explicitly here. These are recommendations which go further than Haarlemmermeer's framework of reference.

Fire safety concept
In the opinion of the committee, further consideration needs to be given to the fire safety concept and the regulations. Is the fire safety concept adequately embedded in the related regulations at a national or municipal level? In a society in which the prevailing tendency is to deregulate, the committee argues against the need for additional regulations. Instead, the suggestion is to work with target provisions in the regulations. Application of regulations with target provisions demands greater insight into the fire-engineering characteristics of complex, special objects".

Continued occupancy
If, pending the outcome of the technical investigation into the fire safety of structures such as the detention centre, the complex continues to be used on a temporary basis and no significant constructional changes are made, attention must – in conformity with the fire safety concept and the occupancy permit - focus in full on:

- System of direct alarm (no delays);
- Proper access to the institution by emergency service vehicles;
- System of unlocking cells;
- Practicing up-to-the minute evacuation plans;
- The presence of an effective emergency and first aid organization.

All municipalities with detention centres within their boundaries are recommended emphatically to stop situations where the alarm is delayed or alarm systems can be reset.

Concurrence of investigations
The committee recommends an exchange of ideas between the Safety Board and the Association of Dutch Municipalities about the possibilities and the desirability of coordinating investigations, even in situations in which the Municipality is empowered, but is not obliged to act as commissioner for investigations. Evaluation of the process in Haarlemmermeer might provide input for this exchange of ideas.

Aspects for investigation
In the interests of arriving at the truth, the committee has drawn up a list of aspects for the specific attention of the Safety Board.

- The committee recommends the Safety Board to validate the results of the investigation and findings of the TNO, in view of the fact that the committee was astonished that the findings in respect of the eventual spread of fire and the nature and the character of fumes (high CO concentration) formed no part of the report of the investigation by TNO into the fire movement requirements (WBDBO) of the detention cells in Zeist.

In view of the circumstances surrounding the fact that Haarlemmermeer should not permit continued use of the detention centre, which as such, will have to be completely demolished, consideration should be given to using J Wing (mirror image) as a "test laboratory" – in agreement with the owner - for a full and representative reconstruction.
- On the basis of a full reconstruction, the Safety Board should gain an insight into the time that the fire started / was discovered, the time that the alarm was raised with the emergency services, the time that the alarm was sent to the Schiphol's emergency control room, the time of the rescue/evacuation from the fire and out of the danger zone, using where appropriate information from the Public Prosecutions Department."