ANNEX

Public Consultation on Proposals to Improve Fire Safety in Private Buildings

June 1998

Security Bureau and Home Affairs Bureau

CONSULTATION PAPER ON PROPOSALS TO IMPROVE FIRE SAFETY IN PRIVATE BUILDINGS

EXECUTIVE SUMMARY

SURVEY FINDINGS

According to Fire Services Department (FSD)'s territory-wide building survey, only 28% of private buildings had their fire service installations (FSIs) and fire safety management rated as satisfactory. The presence of building management bodies, in the form of an owners' corporation (OC) or a property management company, helps enable better management of fire safety measures. Amongst all types of private buildings, the fire safety condition in composite (commercial/residential) buildings is the most unsatisfactory. Only 11% of these buildings were found satisfactory. This finding is in line with the sample survey by the Buildings Department (BD), where 80% of the composite buildings surveyed were found with serious deficiencies in exit routes.

2 The Electrical and Mechanical Services Department (EMSD)'s sample survey reveals that only 21% of the buildings surveyed were found to have their communal electrical installations in satisfactory condition, and 20% would require major rectification.

URGENT SOLUTIONS

(A) Building Management

3 We propose to organise owners and residents to carry out routine inspection of their own buildings to identify defects in the fire safety provisions. A standard list of inspection items in layman terms would be provided to owners and residents to facilitate the self-inspection of their buildings.

(B) Removal of Fire Hazards

(I) Fire Hazards which are easily rectifiable

4 Departments will step up enforcement actions to ensure early removal of fire hazards identified during their surveys. Building owners and residents should be able to remove most of these hazards, such as by clearing means of escape and keeping smoke doors closed.

(II) Reinstatement of building fire safety measures and structures

5 Departments will require responsible owners and residents to restore and reinstate the building fire safety measures and structures to workable and satisfactory condition, and to the standards specified in their approved building plans. Enforcement actions will be taken under the Fire Services Ordinance, the Buildings Ordinance and the Electricity Ordinance as necessary.

(III) Demolition of unauthorised rooftop structures

6 As rooftops of single staircase buildings are part of the required means of escape, BD proposes to demolish the unauthorised rooftop structures posing a fire hazard in two phases, with priority action taken against 1 300 buildings in four years under phase one, and 3 300 buildings under phase two.

(IV) Communal electrical installations in buildings

7 EMSD proposes to take immediate enforcement actions on about 11 400 buildings referred by FSD during the survey, and then carry out inspections and take enforcement actions on other buildings by phases, focusing on the older buildings in the first instance.

(C) Promoting a Fire Safety Culture

8 We will continue to work closely with building management bodies to tackle building fire safety problems and promote a fire safety culture in the community through different programmes and activities.

FURTHER PROPOSALS TO IMPROVE FIRE SAFETY

(A) Building Management

(I) Compulsory/mandatory management of buildings

9 We would consider amending the Building Management Ordinance to provide for specific building management standards, sanctions and a certification scheme. Home Affairs

Bureau is also pursuing the concept of mandatory management of buildings.

(II) Condominium title

10 We would consider automatic formation of OCs, having regard to relevant overseas legislation, and the feasibility of applying this modality in new buildings.

(B) Upgrading Fire Safety Standards of Private Buildings

11 We will consider a phased programme to upgrade the FSIs and building fire safety construction of private buildings, according to the need for improvement as revealed by the findings of our surveys.

(I) Composite (commercial/residential) buildings

12 We propose a ten-year programme to improve the fire safety standards of composite buildings by phases, dealing with about 5 000 pre-1973 composite buildings in Phase I (six years) and about 4 000 1973 - 1987 composite buildings in Phase II (four years). We will consider legislative means to bring fire safety in these buildings to modern standards, by making reference to the framework under the Fire Safety (Commercial Premises) Ordinance.

13 We would also consider a categorization scheme in the new legislation to distinguish those buildings which have failed to upgrade their fire safety to the stipulated standards. We would consider registering a note on the fire safety condition in the land title/title deed of each categorized building in the Land Registry.

(II) Residential buildings

14 After the completion of the improvement programme for composite buildings, we propose to deal with about 3,000 pre-1987 residential (above 3 storeys) buildings by phases, with priority given to pre-1973 buildings.

(III) Industrial buildings

15 Fire safety of workplaces inside industrial buildings is already covered by existing legislation. We propose to deal with about 650 pre-1973 industrial buildings first before the programme may be extended to about 1 000 1973-1987 industrial buildings, following the priority programmes for composite and residential (above 3 storeys) buildings.

COSTS AND BENEFITS

16 The surveys have highlighted the need for owners to improve fire safety particularly in old buildings. Owners themselves are primarily responsible for managing and upgrading their buildings and will benefit directly from higher fire safety standards. The cost for upgrading will depend on the type of building, the difference between the existing and the proposed standard of FSIs, and the extent of deficiencies in building fire safety structure. Estimated upgrading costs are set out in the consultation paper.

17 In view of the cost implications on building owners, we would consider providing financial assistance similar to the framework of the Fire Safety Improvement Loan Scheme and the Building Safety Improvement Loan Scheme.

CONSULTATION AND COMMENTS

18 Consultation starts on 25 June 1998 and will last for two months until 24 August 1998. Please send your comments on the proposals set out in this paper:

- by mail to B Division, Security Bureau, 6/F, Central Government Offices, Lower Albert Road, Hong Kong;

- by fax to B Division, Security Bureau on 2179 5408; or

- by electronic mail on *sbseoesu@hkstar. com* (home page address: *http://www.info.gov.hk*)

Security Bureau/Home Affairs Bureau
June 1998

CONSULTATION PAPER ON PROPOSALS TO IMPROVE FIRE SAFETY IN PRIVATE BUILDINGS

INTRODUCTION

Fire has a devastating effect on lives and properties. The damage caused by a fire can be catastrophic if fire safety precautions are not properly observed. In the tragic fire in Garley Building in November 1996, 41 people died and some 80 were injured. The fire in Mei Foo Sun Chuen in April 1997 killed 9 people and injured another 37. In 1997, there were 11,908 cases of fire in Hong Kong, causing 47 fatalities and 605 injuries.

2 Fires in pre-1987 buildings without the protection of modern fire safety measures can be disastrous. There are approximately 1 400 commercial, 9 000 composite (commercial/residential), 3 000 residential (above 3 storeys) and 1 700 industrial buildings in the territory with their building plans submitted to the Building Authority before 1987. The flow of people is significant in commercial and industrial blocks during office hours, whilst the population density is high in residential buildings particularly at night time. Fire service installations (FSIs) and building fire safety construction in most of these buildings are not up to present day standards.

3 We have been taking progressive steps to improve fire safety in private buildings and promote a fire safety culture in the community. The Fire Safety (Commercial Premises) Ordinance (FS(CP)O), which came into operation in May 1997, requires prescribed commercial premises (including banks, off-course betting centres, jewellery and goldsmith shops, supermarkets,

department stores and shopping arcades) to upgrade their fire safety measures to modern standards.

4 The Fire Safety (Commercial Premises) (Amendment) Ordinance 1998 was brought into operation on 1 June 1998 to extend the coverage of the FS(CP)O to pre-1987 commercial buildings to improve their fire safety. A Fire Safety Improvement Loan Scheme (FSILS) was also introduced on 1 June 1998 to provide financial assistance to owners who have received statutory directions under the FS(CP)O to upgrade the fire safety standards of their commercial premises or buildings.

5 A large-scale Fire Safety Campaign, with special emphasis on the importance of proper building management to fire safety, was launched on 21 June 1998. A series of educational and publicity activities will be organised throughout the year to arouse and sustain fire safety awareness of the public.

6 To formulate our strategy to improve fire safety in private buildings, the Fire Services Department (FSD) conducted a territory-wide building survey in February and March 1998 to assess the fire safety conditions in different types of private buildings. The Buildings Department (BD) has been conducting sample surveys since February 1998, covering some 40 pre-1987 composite (commercial/residential) buildings and some 1 200 pre-1987 non-commercial buildings. The Electrical and Mechanical Services Department (EMSD) also carried out two sample surveys during February to April 1998, covering altogether 160 buildings, to inspect the condition of communal fixed electrical installations in these buildings.

SURVEY FINDINGS

Fire Services Department

7 FSD inspected a total of 27 148 private buildings, of which only 7 499 (28%) were rated satisfactory in terms of their FSIs and building fire safety management. FSD also completed a sample survey of some 25 000 low rise (not more than 3 storeys) domestic houses. The fire safety measures in 6 236 houses covered in the sample survey are of an acceptable standard.

8 Two major areas of deficiency were identified according to FSD's survey findings -

(a) <u>Fire safety management in buildings</u>

Maintenance of FSIs and general fire safety management in private buildings are not satisfactory, as revealed by the large number of cases with defective or obstructed means of escape, defective or poorly maintained FSIs, unsatisfactory electrical wiring in common parts, and unauthorised building alterations and rooftop structures. Only 28% of the surveyed buildings were rated as satisfactory. Nevertheless, most of the identified fire hazards should be easily rectifiable, but would require regular and intensive daily upkeeping.

The presence of building management bodies, in the form of an owners' corporation (OC) or a property management company, would help to improve fire safety management in

buildings. Out of 14 808 private buildings with building management bodies, only 3 050 (21%) had reported cases of fire hazards.

(b) Composite (commercial / residential) buildings

The survey indicates that amongst all types of buildings, the fire safety condition in composite buildings is the most unsatisfactory. Of the 14 977 composite buildings surveyed, only 11% were found satisfactory. Despite the large flow of people and high population density particularly in the commercial portions of such buildings, most of these commercial parts are not installed with sprinkler systems.

9 The fire safety problems are relatively less serious in industrial and residential buildings. Of the 2 305 industrial buildings surveyed, 47% were rated satisfactory in terms of their FSIs and building fire safety management. As regards the 5 298 residential buildings surveyed, 62% were rated satisfactory. Notwithstanding these findings, the FSIs and fire safety measures of the pre-1987 buildings in particular do not meet present day standards. There is a need to consider upgrading their fire safety standards to provide better fire protection.

Buildings Department

10 Based on the preliminary findings from its sample surveys, BD has identified the following common problems in pre-1987 non-commercial private buildings:

(a) exit routes and staircases as a means of escape are rendered ineffective by unauthorised alterations

and/or obstructions, exposed electrical wiring and other installations, and unauthorised or unacceptable doors/ gates obstructing access at ground level or access to the main roofs;

(b) fireman's lifts as a means of access for fire fighting and rescue are rendered ineffective by the lack of protective lobbies for them; and

(c) lobbies as fire resisting construction are rendered ineffective by defective lobby doors, removal of lobby doors or removal of lobbies.

The private buildings surveyed by BD were identified to contain a high percentage of deficiencies in means of escape, fireman's access and prevention of spread of fire to adjoining buildings. Similar to the findings of FSD's survey, the overall fire safety condition in composite buildings is considered least satisfactory, with 80% of buildings found with serious deficiencies in exit routes, 19% with deficiencies in fireman's access, and 50% with deficiencies in prevention of spread of fire to adjoining buildings.

Electrical and Mechanical Services Department

11 Of the 160 buildings which EMSD had surveyed, only 21% were found to have their communal electrical installations in satisfactory condition, 59% and 20% of these buildings would require minor and major rectification respectively.

12 The above surveys reveal the unsatisfactory condition of fire safety of private buildings in Hong Kong. Properly maintained fire safety measures in buildings are of vital importance to control the spread of fire, increase the chance of

escape of occupants and minimise the damage in case of fire. Most of the identified fire hazards are easily rectifiable but people often ignore them for the sake of convenience. However, even the simplest fire safety precautions, such as keeping the smoke doors closed all the time, can have a crucial effect in case of fire, as revealed from the Coroner's findings in the Mei Foo Sun Chuen fire -

> *'I [the Coroner] cannot emphasise too strongly that the tragedy which overcome the eight victims … was avoidable simply and easily. Had the smoke doors operated as they were intended to, I have no doubt that the possibility that none of those eight victims would have lost their lives would have been turned into an almost certain fact.'*
> *(Extract from the Report of the Coroner's Death Inquest into the Mei Foo Sun Chuen fire on 8 April 1997)*

URGENT SOLUTIONS

(A) Building Management

13 There is a close and direct relationship between proper building management and building fire safety. Building management bodies, such as OCs or Mutual Aid Committees (MACs), can play a key role in co-ordinating building owners to properly maintain their fire safety measures, and to carry out improvement works, in particular works in common areas of buildings involving multi-ownership. We have been implementing a proactive programme to improve building management. The Home Affairs Department (HAD), through its liaison network in the districts, has been actively encouraging, advising and assisting owners to form OCs under the Building

Management Ordinance (BMO) to manage their buildings. Liaison Officers of the District Offices reach out to building owners and the OCs regularly to explain the importance of good building management. To backup these efforts, HAD has recently opened the first Building Management Resource Centre in Kowloon to provide comprehensive services for the public on building management matters. HAD is actively planning for the setting up of new Centres on Hong Kong Island and in the New Territories. The Department also organises regular seminars, training courses, fire drills, etc. in the districts to promote building management and fire safety.

14 We will also remind building management bodies and owners of their responsibility to protect occupiers and users of their buildings from fire threats. We propose to organise owners and residents to carry out routine inspection of their own buildings to identify defects in the fire safety provisions, and to follow up with the OCs or government departments as necessary. BD, FSD, EMSD and Labour Department are drawing up a standard list of inspection items in simple layman terms to facilitate the self-inspection scheme by building owners or residents. Regular inspections can also be organised by the building management bodies. HAD will arrange for the inspection list to be widely distributed to owners and residents to facilitate self-inspection of their buildings, even where no organised building management body is formed. Follow-up action will include persuading owners and tenants to form OCs or other resident bodies to take more effective joint action on better building management.

(B) Removal of Fire Hazards

15 Departments will step up enforcement actions to ensure early removal of fire hazards identified during the surveys. Our action plan to remove fire hazards comprises the following -

(I) Fire hazards which are easily rectifiable

16 Fire hazards identified in FSD's survey are being followed up by relevant departments. FSD, BD, EMSD and HAD are making a concerted effort to require responsible building owners and residents to rectify the fire hazards.

17 Building owners and residents should be able to remove most of these hazards themselves, such as by clearing means of escape and keeping smoke doors closed, without much difficulty or incurring much expenses.

(II) Reinstatement of building fire safety measures and structures

18 Common examples of defective building fire safety measures and structures include unworkable FSIs and removal of smoke doors. The enforcement departments will require responsible owners and residents to restore and reinstate the building fire safety measures and structures to workable and satisfactory condition, and to the standards specified in their approved building plans.

19 If the responsible owners fail to carry out necessary works to abate fire hazards, under the Fire Services Ordinance, the Director of Fire Services (DFS) may prosecute them, and where circumstances require, may effect physical abatement on behalf of the owners and then recover the costs from them.

Likewise, if the owners fail to carry out the necessary works to rectify the building fire safety structures, the Director of Buildings (DB) may cause the works to be carried out on behalf of the owners and then recover the costs from them, as provided under the Buildings Ordinance. If necessary, we will invoke such statutory powers to deal with buildings with serious fire safety problems.

20 For communal electrical installations with approved loading exceeding 100 amperes, owners are required, under the Electricity Ordinance, to have the installations inspected, tested and certified by registered electrical contractors at least once every five years. EMSD will prosecute those owners who fail to carry out such periodic tests.

21 The more serious cases involving, for example, multiple defective fire safety measures would be considered for inclusion as 'target buildings' for follow up actions through the Building Management Co-ordination Teams of HAD.

(III) Demolition of unauthorised rooftop structures

22 Among the 9 000 buildings where suspected unauthorised rooftop structures (URSs) were found in the survey, 4 600 are single staircase buildings. As their rooftops are part of the required means of escape, URSs posing a fire hazard should be removed as a matter of priority. BD proposes to demolish such URSs in these single staircase buildings by two phases -

Phase I (1998-2002)	to deal with URSs (together with other building infractions) in 1 300 single staircase buildings over 4 years. Rooftops of these buildings

	are found to be fully covered with URSs; and
Phase II (after 2002)	to deal with URSs in the remaining 3 300 single staircase buildings.

(IV) Communal electrical installations in buildings

23 EMSD proposes to take immediate enforcement actions on about 11 400 buildings referred by FSD during the survey, including -

(a) issuing warning letters to and considering prosecution action against those buildings with approved loading exceeding 100 amperes but have not carried out the periodic inspection, testing and certification of the communal electrical installations as required under the Electricity Ordinance; and

(b) conducting inspections and serving improvement notices on any irregularities found in the communal electrical installations in buildings with approved loading not exceeding 100 amperes and as such are not required under the Electricity Ordinance to conduct periodic testing and inspection.

24 Following the priority action programme on these 11 400 buildings, EMSD proposes to carry out inspections and take enforcement actions on other buildings in the following order of priority, focusing on the older buildings in the first instance -

(a) pre-1969 buildings;

(b) 1969 - 1985 buildings;

(c) 1985 - 1992 buildings; and

(d) post-1992 buildings.

25 The cost of repairing/replacing the communal electrical installations depends on the size of the buildings, and the condition of and deficiencies in such installations. The estimated cost per building, based on the sample survey of 160 buildings carried out by EMSD, is set out at the Appendix. The cost of each unit depends on the number of co-owners of the buildings.

(C) Promoting a Fire Safety Culture

26 One of the findings of our surveys is that the fire safety awareness of the building owners and residents is low. We will continue to work closely with building management bodies to tackle building fire safety problems and promote a fire safety culture in the community. Our action programme includes the following -

(a) A Central Steering Committee on Fire Safety has been established to co-ordinate the efforts of various departments to promote fire safety. Six District Fire Safety Committees (DFSCs) have been set up so far to co-ordinate and organise activities at the district level. A series of concerted inter-departmental building clearance operations to remove fire hazards is being organised. Our aim is to establish DFSCs in all the 18 districts eventually.

(b) FSD has set up a Community Relations Division to strengthen the cooperation between the Government and the community in the fight against fire. The Division will, in liaison with other departments, step up public education on fire safety, organise fire safety seminars and encourage the public to participate in fire drills.

(c) To educate the younger generation and enhance their fire safety knowledge, FSD has launched a Fire Safety Ambassador (FSA) Scheme. FSAs come from different strata of the community and are trained to help report fire hazards to FSD and disseminate fire safety message. There are about 700 FSAs at present. The Scheme will be further expanded to widen its coverage.

(d) We are mounting a large-scale Fire Safety Campaign in 1998/99 with the aim of enhancing public awareness of the importance of building management and fire safety. The year-long campaign will emphasise on the responsibility on the part of owners to take care of their property and to maintain FSIs. It will mobilise the whole community to join forces to prevent fire together. The public will also be advised on fire safety measures and what to do in case of fire through different channels and media.

FURTHER PROPOSALS TO IMPROVE FIRE SAFETY

(A) Building Management

(I) Compulsory / mandatory management of buildings

27 Section 18 of the BMO stipulates, inter alia, that the OC shall maintain the common parts of a building in a state of good and serviceable repair and clean condition, and shall carry out such work as may be ordered in respect of the common parts by any public officer in exercise of the powers conferred by any Ordinance. To enhance the effectiveness of this Section, the Home Affairs Bureau (HAB) will consider amending this Section to provide for -

(a) specific management and maintenance standards;

(b) sanctions against non-compliance; and

(c) a certification scheme whereby owners of old buildings are required to produce a certificate from Authorised Persons certifying that their buildings are free from fire hazards.

28 As a complementary measure, HAB is pursuing the concept of compulsory or mandatory management. One possible way is for DFS and DB to identify problematic buildings and make recommendations to the Secretary for Home Affairs (SHA) who, after consideration, will order the owners of such buildings to -

(a) effect the building management measures as stipulated; and

(b) if necessary, employ a building manager with adequate and relevant experience.

There would be clear sanctions stipulated in the law against non-performance of (a). Regarding (b), if the owners decline to employ a proper building manager, SHA may appoint one for them and recover the costs and fees from the owners.

(II) Condominium title

29 HAB has examined the laws of Australia, Singapore and Canada. The formation of OCs is a statutory requirement in these countries. An OC is formed automatically when the owners register their respective titles with the authority. In addition, Singapore has an Act to deal with the situation where a building is not managed and maintained satisfactorily, by appointing a management agent on the owners' behalf. We consider that the automatic formation of OCs warrants consideration, and welcome views from the general public and relevant parties on the feasibility of applying this modality in new buildings.

(B) Upgrading Fire Safety Standards of Private Buildings

30 According to our survey findings, the fire safety provisions of a large number of pre-1987 private buildings are not up to current standards. To effectively protect the safety of owners and occupiers working or living in these buildings, building owners are recommended to upgrade the fire safety measures of their buildings to modern standards.

31 We will consider a phased programme to upgrade the FSIs and building fire safety construction of private buildings, according to the need for improvement as revealed by the findings of our surveys. Members of the public are requested to comment on a proposed programme set out in the ensuing paragraphs.

(I) Composite (commercial/residential) buildings

32 As the fire safety condition in composite buildings is the most unsatisfactory, and in view of the large flow of people and high population density in the commercial portions of such buildings, we propose to deal with composite buildings as a matter of priority, and require these buildings to upgrade their FSIs and building fire safety construction by phases.

33 The proposed fire safety requirements for the commercial portions of composite buildings may be modelled on the FS(CP)O. These may include the installation of sprinkler systems which are important in controlling the spread of fire, and improvements to building fire safety construction such as protection of exit routes and fireman's access, and prevention of spread of fire between compartments of different uses/ adjoining buildings. Nevertheless, the residential portions of composite buildings, because of the relatively lower fire load and flow of people, should not require the same fire safety standards as those of the commercial portions. We propose certain essential fire safety improvement measures including the installation of fire hydrant/hose reel systems (if these were not already provided) which should offer the occupants a ready means of tackling an outbreak of fire, and the provision of smoke lobbies and smoke doors which are for the protection of exit routes. Specific details and the estimated costs of some typical upgrading requirements for composite buildings are set out at the Appendix.

34 We propose a 10-year programme to improve the fire safety standards of composite buildings as follows -

Phase I	to deal with about 5 000 pre-1973 composite buildings over six years; and
Phase II	to deal with the remaining 4 000 1973-1987 composite buildings over four years.

We propose to deal with the older composite buildings with their building plans first submitted to the Building Authority before 1973 as a matter of priority because the installation of sprinkler systems was not a mandatory requirement at the time when these buildings were constructed. The 1973-1987 composite buildings could be covered at a later stage. The Code of Practice on Minimum Fire Service Installations and Equipment was substantially revised in 1987. Buildings designed to the standards laid down in this 1987 Code of Practice would have fitted with modern FSIs with standards that are very close to, if not the same as. current standards.

35 Due regard will be given to the urban renewal programme particularly for old buildings which may require substantial structural alterations or building works to meet the required standard of fire safety.

36 We will consider legislative means to bring fire safety in pre-1987 private buildings to modern standards, by making reference to the framework under the FS(CP)O. Under the Ordinance, the authorities, i.e. DB and DFS may issue directions to require owners or occupiers to improve the fire safety measures of their buildings to the stipulated standards. A direction will specify a reasonable period of time within which

the owners or occupiers must comply with the directions. The authorities may apply to a magistrate for a compliance order, directing an owner or occupier to comply with the requirements in a direction, if he fails to do so without a reasonable excuse. If an owner or occupier fails to comply with a direction or a compliance order, the authorities may apply to the District Court for a Use Restriction/Prohibition Order to prohibit the use/occupation of the commercial premises/building. Failure to comply with the requirements shall be an offence and shall be punishable by a fine, whilst failure to comply with a Use Restriction/Prohibition Order shall also be punishable by imprisonment. We would consider adopting a similar legislative approach to bring about fire safety improvements particularly in the commercial portions of composite buildings. However, a Use Restriction/Prohibition Order may not be applicable to the residential portions of composite buildings and residential buildings. To enable the users to have a proper understanding of the fire safety condition of private buildings, consideration may be given to include in the new legislation a categorization scheme to distinguish those buildings which have failed to upgrade or improve their fire safety to the stipulated standards. We would consider making the list available for public inspection. We would also consider registering a note on the fire safety condition in the land title/title deed of each categorized building in the Land Registry. A building will be removed from the categorization list when its fire safety measures have been upgraded or improved to the required standards.

(II) Residential buildings

37 Notwithstanding the comparatively more satisfactory maintenance of FSIs and building fire safety measures, and our immediate measures to improve building management and remove URSs in residential buildings, there is the need for

bringing the basic fire safety measures of these buildings to modern standards. These requirements would be similar to those proposed for the residential portions of composite buildings. Details of the proposed upgrading requirements and the average costs are set out at the Appendix.

38 After the completion of the proposed 10-year fire safety improvement programme for composite buildings, we may deal with about 3 000 pre-1987 residential buildings (above 3 storeys) by phases, with priority given to pre-1973 buildings. Subject to the community's views on the legislative approach and the categorization scheme proposed for composite buildings, we may consider similar arrangements for residential buildings.

(III) Industrial buildings

39 In general, the need to address fire safety issues in industrial buildings is less urgent compared to the case of composite buildings. Nearly half of the industrial buildings surveyed by FSD were rated satisfactory in terms of FSIs and building fire safety management. Furthermore, fire safety aspects of workplaces in industrial buildings and work processes which have potential fire hazards are already controlled by the Factories and Industrial Undertakings Ordinance and the Occupational Safety and Health Ordinance. Therefore, the fire safety improvement programme for industrial buildings may come after the priority programmes for composite and residential buildings.

40 We propose to require industrial buildings to install sprinkler systems and automatic fire detection systems connected to FSD for areas not covered by sprinklers, and provide protection to exit routes and fire fighting and rescue

stairways. Detailed proposals and the estimated average costs of some typical upgrading requirements are set out at the Appendix.

41 Our proposal is to deal with about 650 pre-1973 industrial buildings first before the programme may be extended to about 1 000 1973-1987 industrial buildings. We propose to introduce legislative amendments to require owners and employers in industrial buildings to upgrade the fire safety measures of their premises to protect the safety of people working in these buildings.

COSTS AND BENEFITS

42 The surveys conducted by relevant departments on the general fire safety conditions of private buildings have highlighted the need for owners to improve fire safety particularly in old buildings. Our package of proposals aims at bringing about an overall improvement to the management of private buildings, and upgrading their fire safety measures to modern standards. Owners themselves are primarily responsible for managing and upgrading their buildings and will benefit directly from higher fire safety standards. Such improvement measures are in the ultimate interest of the building owners because, with better fire safety protection, their personal safety or that of their tenants would be enhanced, and the value of their buildings would appreciate and their life cycles would be extended. The damage caused by some of the past tragic fires could have been minimised or even avoided if the building fire safety measures were upgraded. To provide an illustration, reference may be made to the following extract of the Final Report of the Inquiry into the Garley Building Fire -

'A lot of the FSIs required for new buildings would have been very useful in reducing the loss incurred by this fire had they been installed. Were there automatic sprinklers in the lift lobby of 2F, for example, the fire would have been extinguished or controlled.'

43 The cost for upgrading fire safety standards will depend on the type of building, the difference between the existing and the proposed standards of FSIs, and the extent of deficiencies in building fire safety structure. The cost for each unit depends on the number of co-owners of the building, which varies widely between buildings.

44 BD and FSD have conducted a sample survey to estimate the costs for improving the fire safety standards of private buildings. The costs for upgrading a **composite building**, which is our proposed first priority, are set out below -

			Average Cost per Building (HK$)	**Average Cost per Unit (HK$)**
commercial portions (assuming 8 commercial units)	(a)	FSIs	390,900	48,900
	(b)	building fire safety construction	380,600	47,600
residential portions (assuming 84 residential units in a 16-storey building)	(a)	FSIs	485,800	5,800
	(b)	building fire safety construction	2,031,800	24,200

45 The estimated upgrading costs for a **residential building** are as follows -

			Average Cost per Building (HK$)	**Average Cost per Unit (HK$)**
residential building (assuming 64 units in a 15 storey building)	(a)	FSIs	380,700	6,000
	(b)	building fire safety construction	1,701,500	26,500

46 The estimated costs for repair/replacement of communal electrical installations, based on the sample survey by EMSD, should not exceed a few thousand dollars for each building owner. The amount would be further reduced for buildings with a larger number of co-owners sharing the cost.

47 To lessen the impact on the community, we have proposed a phased programme to upgrade the fire safety standards of private buildings as outlined in the paragraphs 34, 38 and 41 above. In general, priority will be accorded to older buildings with their building plans first submitted before 1973. In the light of operational experience and feedback of the community, we will review our phased programme and make suitable adjustments if necessary.

48 In view of the cost implications for building owners to upgrade the fire safety standards of their buildings, some owners may require financial assistance in fulfilling their obligation to upgrade or improve fire safety of their buildings. We would

consider providing financial assistance along the lines of the FSILS and the Building Safety Improvement Loan Scheme (BSILS).

49 Under the FSILS, non-means-tested loans are provided at best lending rate to owners of prescribed commercial premises and specified commercial buildings who have received statutory directions under the FS(CP)O to upgrade the fire safety standards of their premises or buildings.

50 Under the BSILS, non-means-tested loans are provided at a 'no-gain, no-loss' interest rate to owners of residential and composite (commercial/residential) buildings who need financial assistance to carry out inspections and maintenance works to their buildings under the Building Safety Inspection Scheme. The "no-gain, no-loss" interest rate is calculated on the basis of the time-weighted average return achieved by the entire Exchange Fund over a period of 18 months. Weighting is applied in order to smooth out fluctuations in the interest rate. The 'no-gain. no-loss' interest rate with effect from 1 April 1998 is 6.262% per annum as compared to the prevailing prime rate of 10% per annum.

51 Borrowers under the two schemes may repay the principal and the interest of the loan by instalments up to 36 months.

CONSULTATION

52 Consultation starts on 25 June 1998 and will last for two months until 24 August 1998. Based on our proposals and the views expressed during the consultation period, we will formulate our strategy to improve fire safety in private buildings.

COMMENTS

53 Please send your comments on the proposals set out in this paper:

- by mail to B Division, Security Bureau, 6/F, Central Government Offices, Lower Albert Road, Hong Kong;

- by fax to B Division, Security Bureau on 2179 5408; or

- by electronic mail on *sbseoesu@hkstar.com* (home page address: *http://www.info.gov.hk)*

54 We would wish, either in discussion or in any subsequent report, whether privately or publicly, to be able to refer to and attribute comments submitted in response to the consultation paper. Any request to treat all or part of a response in confidence will be respected, but if no such request is made, it will be assumed that the response is not intended to be confidential.

Security Bureau/Home Affairs Bureau
June 1998

Appendix

(A) Estimated repair/replacement cost of communal electrical installations in buildings *(Based on the sample survey carried out by EMSI) on the condition of the communal electrical installations in 160 buildings)*

Estimated Cost *PER BUILDING*	**Percentage of Buildings**
● easily rectifiable and does not involve any cost	**15%**
● below $50,000	**40%**
● $50,000 - $200,000	**37%**
● $200,001 - $500,000	**6%**
● $500,001 - $750,000	**2%**

These are multi-storey buildings consisting of many individual units. The contribution by individual owner is unlikely to exceed more than a few thousand dollars each.

The major defects/deficiencies found during the sample survey included defective cables and wirings, deteriorated electrical equipment, no earthing conductors, ineffective earth bonding, insufficient labelling, live parts not properly enclosed or insulated and obstruction found at entrance/exit of switch room.

(B) Estimated costs for typical fire safety upgrading requirements in commercial portions of composite buildings

	Cost (HK$)
Fire Service Installations	
● sprinkler system	**168,000/floor**
● fire hydrant/hose reel system	**25,000/floor**
● emergency lighting system	**2,500/50m^2**
● manual fire alarm system	**2,400/floor**
● automatic cut-off device for ventilating system	**8,000/floor**
Building Fire Safety Construction	
● replacement of fire door	**9,200/door set**
● provision of smoke lobby	**21,200/lobby**
● fire resisting separation between the commercial portion and the residential portion	**18,000/occupancy unit**
● fire resisting enclosure of electrical wiring/installations	**3,600/floor**
● fire resisting protection of special hazard room	**20,800/room**
● emergency lighting in staircases and exit routes	**2,100/floor**

(C) Estimated costs for typical upgrading requirements in residential portions of composite buildings/residential buildings

	Cost (HK$)
Fire Service Installations	
● fire hydrant/hose reel system	**25,000/floor**
● manual fire alarm system	**2,400/floor**
Building Fire Safety Construction	
● replacement of fire door	**9,200/door set**
● provision of smoke lobby	**21,200/lobby**
● fire resisting protection in common corridor	**1,200/occupancy unit**
● emergency lighting in staircases and exit routes	**2,100/floor**

- fire resisting enclosure of electrical wiring/installation — **3,600/floor**

(D) Estimated costs for typical upgrading requirements in industrial buildings

	Cost (HK$)
Fire Service Installations	
● automatic fire detection system	**$40,000/building**
● sprinkler system	**168,000/floor**
● fire hydrant/hose reel system	**25,000/floor**
● emergency lighting system	**2,500/50m^2**
● manual fire alarm system	**2,400/floor**
● automatic cut-off device for ventilating system	**8,000/floor**
Building Fire Safety Construction	
● replacement of fire door	**9,200/door set**
● provision of smoke lobby	**21,200/lobby**
● fire resisting protection in common corridor	**1,200/unit**
● emergency lighting in staircases and exit routes	**2,100/floor**
● upgrading of firefighting and rescue stairway	**9,700/occupancy unit**
● fire resisting protection to special hazard room	**20,800/room**