

**Security Bureau Circular No. 3/2007**

**CONTINGENCY PLAN  
FOR NATURAL DISASTERS**

(INCLUDING THOSE ARISING FROM  
SEVERE WEATHER CONDITIONS)

**Emergency Support Unit  
Security Bureau  
Government Secretariat  
September 2007**

File Ref. SEC 8/2/12 Part 30

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## List of Abbreviations

AAHK	Airport Authority Hong Kong
AFCD	Agriculture, Fisheries and Conservation Department
AMS	Auxiliary Medical Service
ArchSD	Architectural Services Department
BD	Buildings Department
BLO	Border Liaison Officer
CAD	Civil Aviation Department
CAS	Civil Aid Service
CE's Office	Chief Executive's Office
CEDD	Civil Engineering and Development Department
CEO	Civil Engineering Office
CESC	Chief Executive's Security Committee
CS	Chief Secretary for Administration
DECC	District Emergency Co-ordination Centre
DH	Department of Health
DOs	District Officers
DS(S)	Deputy Secretary for Security
DSD	Drainage Services Department
ECACCS	Enhanced Command and Control Computer System
ECC	Emergency Control Centre
EDB	Education Bureau
EMSC	Emergency Monitoring and Support Centre
EMSD	Electrical and Mechanical Services Department
ESU	Emergency Support Unit
ETCC	Emergency Transport Co-ordination Centre
DEVB	Development Bureau
FCP	Field Command Post
FEHD	Food and Environmental Hygiene Department
FSCC	Fire Services Communication Centre
FSD	Fire Services Department
GEO	Geotechnical Engineering Office
GFS	Government Flying Service
GLD	Government Logistics Department
HA	Hospital Authority
HAD	Home Affairs Department
HD	Housing Department
HKO	Hong Kong Observatory
HKPF	Hong Kong Police Force
PHQCCC	Police Headquarters Command and Control Centre

HyD	Highways Department
ISD	Information Services Department
Lands D	Lands Department
LCSD	Leisure and Cultural Services Department
MD	Marine Department
OFTA	Office of the Telecommunications Authority
PCCW-HKT	Pacific Century Cyber Works – Hong Kong Telecom
PS for S	Permanent Secretary for Security
SB	Security Bureau
SBDO	Security Bureau Duty Officer
S for S	Secretary for Security
SWD	Social Welfare Department
TD	Transport Department
WSD	Water Supplies Department

## **1. INTRODUCTION**

1.1 Natural disasters that occur in Hong Kong are generally the result of severe weather conditions such as exceptionally heavy rain, storm surges, thunderstorms and tropical cyclones. These events can result in considerable disruption to transport and other essential services and cause floods, landslips and other incidents giving rise to casualties. Tsunami, which is a geophysical hazard that poses a threat to coastal communities worldwide, has a very small chance of affecting Hong Kong significantly. The consequences of any natural disaster and the counter measures required to deal with it will vary according to the circumstances.

1.2 This contingency plan summarises the Government's alerting systems and organisational framework for responding to such disasters. Functions and responsibilities of Government departments and other bodies in the event of natural disasters including those resulting from severe weather conditions are also set out in this Contingency Plan.

1.3 In addition to this Plan, each department has its own detailed operational instructions.

## 2. ALERTING SYSTEM AND CO-ORDINATION

2.1 The Hong Kong Observatory (HKO) monitors weather conditions closely and initiates issue of all warnings of severe weather conditions, indicating where and when the event will occur, how long it will last and what consequences are expected. Messages will also be issued giving general advice on precautions to be taken to minimise the loss of life and damage to property, followed by supplementary information and advice as the situation develops. The HKO will also issue, to the media and Government departments listed in **Annex E4**, hourly summaries of the weather warnings whenever Tropical Cyclone Warning Signals, Rainstorm Warning Signals or Landslip Warnings are in force. The HKO will, in addition, send these summaries by fax every hour to EMSC, PHQCCC, FSCC and ISD. The HKO will also inform AAHK via HKO Airport Meteorological Office of the latest Tropical Cyclone Warning Signals, Strong Monsoon Signal and Rainstorm Signals by fax or appropriate means. These warnings will then be disseminated by ISD, the SBDO/EMSC, the Police, FSD, TD, MD, AAHK, PCCW-HKT and other parties according to the **Full Alerting System** set out in **Annex E**. The HKO also monitors the occurrence of earthquake-generated tsunamis, and issue Tsunami Warnings indicating the estimated time of arrival of the tsunami at Hong Kong. As communities vulnerable to storm surges due to approaching tropical cyclones are also vulnerable to tsunamis, the alerting system for tsunamis is the same as that for tropical cyclones (i.e. **Annex E**). Upon receipt of these weather warnings or tsunami warnings, and any other messages received, the listed organisations will take effect any necessary action specified in this contingency plan and in their own detailed operational instructions. A full list of emergency contact telephone, facsimile and radio telephone numbers is provided in the “Hong Kong Emergency Telephone Directory”. This Directory is a Restricted document.

2.2 HAD will handle public enquiries. ISD will deal with the media generally, although Police Public Relations Branch will handle operational matters such as traffic accidents, traffic congestion, road diversions and road closures. The media, public and other outside parties should not contact, or be referred to, SBDO/EMSC or HKO.

2.3 The HKO will maintain close regular contact on the weather or tsunami situation with the SBDO, or with EMSC if it has been activated. As regards the latest effects of inclement weather or a tsunami, the ISD, HAD HQ, PHQCCC, FSCC, CEDD, DSD, HyD, DEVB, TD, MD, Lands D, HA, EDB and SWD should all keep SBDO/EMSC and each other fully and proactively informed. This will enable all parties to respond quickly and effectively in a co-ordinated manner. It will also enable SBDO/EMSC to collate all available information; monitor the situation as it develops; identify problems; and ensure that departments receive any support necessary. See also paragraph 8.5.7.

### 3. TROPICAL CYCLONES - WARNINGS AND ACTION TO BE TAKEN

3.1 *Tropical Cyclone Warnings* -Tropical cyclone advisories and/or warnings are issued by the HKO, via ISD, whenever a tropical cyclone is within 800 km of Hong Kong and may affect Hong Kong. Such advisories and/or warnings include the name of the tropical cyclone, the number of the tropical cyclone signal issued and advice on the precautionary measures that the public should take, including, when appropriate, advice on the timing of possible sea flooding due to storm surges. **Annex A** describes in full Hong Kong's *Tropical Cyclone Warning Signal System*, and the respective meanings of the various signals, and gives some advice on precautionary measures. It also includes some sample warning messages.

#### *Broadcast of Special Advisory and Warning Messages*

3.2 When a *No. 3 Signal or higher* is issued, SWD must decide and advise ISD whether day nurseries, day crèches, sheltered workshops, supported employment units and day activity centres for the disabled, day care centres, multi-service centres and social centres for the elderly, early education and training centres and special child care centres for disabled children, activity centres for discharged mental patients and social and recreational centres for disabled persons shall be opened and when they shall be closed. Similarly, EDB must decide and advise ISD whether kindergartens, schools for physically handicapped children and schools for mentally handicapped children shall be opened and when they shall be closed.

3.3 In order to spread the demand for public transport services on the issuance of the *No. 8 Signal*, HKO will issue via ISD two *Advisory Messages* explaining to the public what action should be taken.

3.4 The first *Advisory Message* (sample at **Appendix A to Annex A**) will be issued once the *No. 8 Signal* is expected within two hours. The following action will be taken by EDB, SWD and HAD upon receipt of such notification by ISD:

- EDB should monitor the situation and issue press release on school arrangements as appropriate.
- SWD should activate emergency relief co-ordination centres, and decide whether and when day nurseries, day crèches, sheltered workshops, supported employment units and day activity centres for the disabled, day care centres, multi-service centres and social centres for the elderly, early education and training centres and special child care centres for disabled children, activity centres for discharged mental patients and social and recreational centres for disabled persons are to be closed, and should advise ISD accordingly.
- HAD will ensure that its public enquiry service will be in operation and liaise with the Police and GLD Land Transport Division to prepare for any large-scale evacuation of people affected to temporary shelters.
- CAS will activate the CAS Central Command Centre and make manpower and resources readily available to assist the emergency services.

- HKO will advise SBDO of the need to issue warnings. ISD will advise the SBDO that the warnings are being issued, whether SWD facilities and/or schools are to be closed and of any other relevant information. The SBDO will arrange to activate the EMSC.

3.5 The second *Advisory Message* (sample at **Appendix B to Annex A**) will be issued once a *No. 8 Signal* has been issued. This message will be suitably modified if the *Black Rainstorm Warning Signal* is in force at the same time.

3.6 All subsequent messages relating to the tropical cyclone will also be disseminated by ISD and other parties on the advice of the HKO.

3.7 When any of the *No. 8, No. 9 or No. 10 Signals* are issued, *Tropical Cyclone Warning Bulletins* will be broadcast at 15-minute intervals. Appropriate *Precautionary Announcements* will accompany these bulletins (samples at **Appendices C and D to Annex A**). The latter message will be suitably modified if the *Black Rainstorm Warning Signal* is in force at the same time.

#### 4. RAINSTORMS - WARNINGS AND ACTION TO BE TAKEN

4.1 The Amber-Red-Black colour coded warning system is operated by the HKO to give warnings of heavy rainstorms which may affect or are affecting Hong Kong. This ***Rainstorm Warning System*** operates at all times and may be issued alongside other severe weather warnings, including ***Tropical Cyclone Warning Signals***. A description of the ***Rainstorm Warning System*** is at **Annex B**.

4.2 During a potentially rainy day, the HKO will continuously assess the likelihood of significant rain so as to decide on the need to raise a rainstorm warning signal.

4.3 The action to be taken in response to each signal is: -

<u>Status</u>	<u>Condition</u>	<u>Purpose</u>	<u>Action required</u>
<b><i>Amber</i></b>	Heavy rain has fallen or is expected to fall generally over Hong Kong, exceeding 30 millimetres in an hour, and is likely to continue	Alert public to potential heavy rain that may develop into Red or Black signal situations; trigger for Departments to be on the alert	<ul style="list-style-type: none"> <li>(i) HKO will issue a Rainstorm Warning Signal Message and Amber Rainstorm Warning Signal Special Announcement via ISD to Government Departments and the media (samples at Appendices A and B to Annex B)</li> <li>(ii) Key liaison and emergency personnel in Departments should be on the alert and be geared up.</li> </ul>
<b><i>Red</i></b>	Heavy rain has fallen or is expected to fall generally over Hong Kong, exceeding 50 millimetres in an hour, and is likely to continue	Action trigger to initiate pre-assigned sequence of action to combat rainstorms; warn the public of heavy rain and those who have to travel should carefully consider weather and road conditions	<ul style="list-style-type: none"> <li>(i) HKO will issue a Rainstorm Warning Signal Message and Red Rainstorm Warning Signal Special Announcement via ISD to Government Departments and the media (samples at Appendices A and B to Annex B)</li> <li>(ii) Emergency units of non-Government organisations and Government Departments should take the necessary action stated under sections 9 and 10 respectively.</li> <li>(iii) SBDO/ESU will closely observe the development and seek a direction on the need to activate EMSC.</li> </ul>
<b><i>Black</i></b>	Heavy rain has fallen or is expected to fall generally over Hong Kong, exceeding 70 millimetres in an hour, and is likely to continue	Action trigger to advise the public to stay indoors, seek shelter or take other precautionary measures.	<ul style="list-style-type: none"> <li>(i) HKO will issue a Rainstorm Warning Signal Message and Black Rainstorm Warning Signal Special Announcement via ISD to Government Departments and the media (samples at Appendices A and B to Annex B)</li> <li>(ii) Emergency units of non-Government organisations and Government Departments should take the necessary action stated under sections 9 and 10 respectively</li> <li>(iii) EMSC will be activated if it is not already operating.</li> </ul>

4.4 HKO will inform EDB, ISD, PHQCCC, FSCC, SBDO/EMSC, TD, MD, CEDD, DSD, GFS and PCCW-HKT of the *Rainstorm Warning* to be issued. These organisations will immediately alert all other organisations in the manner set out at **Annex E**. EDB will decide whether schools will open or should be closed and will inform ISD to issue an appropriate public announcement. SWD will also be informed by ISD and will advise ISD whether or not to issue an announcement on the closure of day nurseries, day crèches, sheltered workshops, supported employment unit and day activity centres for the disabled, day care centres, multi-service centres and social centres for the elderly, early education and training centres and special child care centres for disabled children, activity centres for discharged mental patients and social and recreational centres for disabled persons.

4.5 ISD will liaise with the media to ensure that *Amber/Red/Black Rainstorm Warning Signal* messages are disseminated quickly and as a priority. In a similar manner to those used by television stations for Tropical Cyclones, Amber, Red or Black Rain Clouds will be displayed in the corner of television screens when in force (samples at **Annex B**).

4.6 From time to time, special announcements on precautionary measures, weather situation and rainstorm status will be issued by HKO via ISD to all Government Departments and the media (samples at **Appendix B to Annex B**).

4.7 The *Black Rainstorm Warning Signal* will be in force until the weather situation improves significantly, when the HKO may, in consultation with SBDO/EMSC and taking into account the general road conditions, consider it appropriate to cancel or change the warning. Having made this decision, the HKO will disseminate via ISD to Government Departments and the media an appropriate Rainstorm Warning Signal Message (samples at **Appendix A to Annex B**).

4.8 The *Red Rainstorm Warning Signal* will be in force until the weather situation improves significantly, when the HKO may, in consultation with SBDO/EMSC and taking into account the general road conditions, consider it appropriate to cancel the warning message. The HKO will disseminate via ISD to Government Departments and the media an appropriate Rainstorm Warning Signal Message (samples at **Appendix A to Annex B**).

4.9 HKO will endeavour to give prior indications of the downgrading of **Black or Red Rainstorm Warning Signal**. The message will be included in the relevant special announcement (sample in **Appendix B to Annex B**).

4.10 The dissemination of warning messages will be made initially by telephone calls, which will be followed by messages via telecommunications links or multi-fax services.

4.11 The prescribed rainfall levels for the issuance of the Rainstorm Warning Signals are for guidance only. When prolonged rain occurs, the Rainstorm Warning Signals may be issued even if these hourly rainfall levels are not reached.

4.12 HKO will try its best to issue the Amber Rainstorm Warning Signal a couple of hours ahead of anticipated heavy rain. However, this lead time may be considerably shorter in case heavy rain develops rapidly. Not all Amber signals will be followed by Red. For the Red and Black Rainstorm Warning Signals, HKO will endeavour to issue them before the prescribed rainfall levels are reached. However, as local severe rainstorms are extremely difficult to forecast and may develop very quickly, the lead time will generally be very short.

There will even be situations in which a Red is issued without a preceding Amber. Similarly, a Black may be issued without a preceding Red.

4.13 As with any warning system containing a forecast element, the issuance of Rainstorm Warning Signals will inevitably involve ‘false alarms’ and ‘misses’. ‘False alarms’ mean that, after the issuance of Rainstorm Warning Signals, the actual rainfall fails to reach the specified levels. In the case of ‘misses’, Rainstorm Warning Signals are issued after the specified levels have been reached, due to rapid development of heavy rain. These ‘miss’ situations may even occur in inconvenient hours. Departmental operational procedures should therefore contain prescribed arrangements to cover such contingencies.

4.14 When both the *Rainstorm Warning Signals* and tropical cyclone warning signals No. 8, 9 or 10 are in force at the same time, paragraphs 3.5 to 3.7 above and **Appendices B to D of Annex A** regarding the announcements to be made should also apply.

## 5. FLOODING – WARNING AND ACTION TO BE TAKEN

5.1 It should be aware that when the Amber Rainstorm Warning Signal is issued, it implies that there will be flooding in some low-lying and poorly drained areas. The Red and Black Rainstorm Warning Signals indicate more serious flooding which could cause major disruption.

5.2 A *Special Announcement on Flooding in the northern New Territories* will be issued by the HKO whenever heavy rain affects the area and flooding is expected to occur or is occurring in the low-lying plains of northern New Territories which covers the North and Yuen Long Districts. It will be cancelled when the rainfall is no longer expected to cause further flooding. However, in areas where drainage is poor, flooding may persist for a long time after the end of a period of heavy rain and the cancellation of the announcement. Once issued, the announcement will be sent to Government Bureaux/Departments/Offices listed in Annex E2 and E4, the local radio and television stations for broadcast to the public. The announcement will be updated at appropriate intervals until heavy rain is no longer expected to cause any additional significant local effects (sample at **Appendix B to Annex C**).

5.3 DSD has installed 21 River Stage Gauges covering flood prone areas in northern and north-western New Territories. When any river stage exceeds its alert level, DSD will alert FSD, HAD, the relevant HAD District Officer and SBDO/EMSC.

5.4 When a Special Announcement on Flooding in the northern New Territories is issued, the DSD Mainland North Region Emergency Control Centre will be activated. DSD and contractor staff will stand ready to clear blocked drains and watercourses in northern and north-western New Territories. FSD, HKPF, GFS and CAS will make available rescue and ambulance resources for providing evacuation and rescue services for flood victims, emergency treatment to casualties and their conveyance to hospitals. These resources will be strategically deployed in the flood prone areas having regard to the DSD flood alert, if issued. The Emergency Duty Officers of North and Yuen Long District Offices should liaise closely with FSD and DSD.

5.5 Upon receipt of a notice of a DSD flood alert or a report of flooding, staff of the District Office concerned will attend the site for obtaining a better understanding of the situation and contacting village representatives of low-lying areas to give warning. The village representatives will in turn alert their villagers who will also inform the District Offices concerned in case of flooding.

5.6 In the event that severe flooding is likely or is occurring in a particular district, the relevant District Emergency Co-ordination Centre (DECC) should be activated and the SBDO should be notified of the situation. As flooding is more likely after a prolonged period of heavy rainfall, District Officers concerned should take into account local situations and weather conditions before deciding to step down any emergency response, even after the cancellation of Tropical Cyclone warning signals, Red/Black Rainstorm Warning or Special Announcement on Flooding in the northern New Territories.

5.7 The issuance of the announcement does not necessarily mean that the whole northern New Territories will generally be affected by heavy rain thus causing flooding in all low-lying plains. Heavy rain may be localised and leads to flooding in certain areas only. It is

therefore inappropriate for closures of all schools in the northern New Territories to be declared automatically upon issuance of the announcement. In view of this unique circumstance, EDB is responsible, before the rainy season, for advising individual schools in the northern New Territories to consider and work out school closure arrangements, based on past experience on flooding and in consultation with DSD.

5.8 The Shenzhen Authority has agreed to give pre-warning to Hong Kong when water discharge from Shenzhen Reservoir is being considered. As far as possible, the decision on water discharge will be passed to Hong Kong 3 hours before the discharge. In the event of unforeseen circumstances where the 3-hour prior notice is not feasible, the Shenzhen Authority will notify Hong Kong as soon as possible. The Shenzhen Authority will pass the information to the Border Liaison Officer (BLO) of HKPF. Upon receipt of such notification, the BLO will immediately pass the message to the North and Yuen Long District Offices and the PHQCCC which will inform the emergency units of DSD, FSD, WSD, and HKO and SBDO/EMSC as well as ISD. A standard and factual press release will then be issued by ISD (sample at Appendix D to Annex C). Once the official communication between BLOs of the two sides has been established, subsequent exchange of information between technical departments can be made. Hong Kong will also be informed when the water discharge ceases.

## 6. OTHER NATURAL HAZARDS - WARNINGS AND ACTION TO BE TAKEN

6.1 Given the hazards posed by Hong Kong's tropical weather it is necessary to provide separate warnings for *Landslips, Thunderstorms and Tsunami*, in addition to those for Tropical Cyclones, Rainstorms and Floods. Detailed background information on Landslips, Floods and Thunderstorms is given in *Annex C*. As for tsunami, which is a geophysical hazard, detailed background information is given in *Annex D*.

6.2 **Landslip Warning** - Heavy rain can cause landslips. A Landslip Warning will be issued by the HKO in conjunction with the Geotechnical Engineering Office (GEO) when there is a high risk of many landslips as a result of persistent heavy rainfall. When a warning is issued, a **Landslip Special Announcement** on precautionary measures will be sent to the local radio and television stations for broadcast to the public. The announcement will be updated at appropriate intervals until the likelihood of landslips has diminished (sample at **Appendix A to Annex C**). When the Landslip Warning criteria is no longer met, the HKO will cancel the Landslip Warning in conjunction with the GEO.

6.3 **Thunderstorm Warning** - Whenever thunderstorms are expected to affect Hong Kong in the short term (within one to a few hours), a brief **Thunderstorm Warning Announcement** will be issued (sample at **Appendix C to Annex C**). Thunderstorm warnings are issued irrespective of whether thunderstorms are widespread or isolated. If thunderstorms will affect isolated areas within a short period of time, the thunderstorm warning issued by the HKO will indicate the areas being affected, to alert members of the public to take appropriate precautions. When thunderstorms are widespread or the areas being affected vary, it will be mentioned in the thunderstorm warning that Hong Kong will be affected by thunderstorms without specific reference to individual areas. Reports of high gust, hail, tornado and waterspout as well as special precautionary announcements will be included in the Thunderstorm Warning when situation warrants. **Thunderstorm Warnings** are primarily targeted at departments and organisations (including the construction, electric power and other industries; those outdoors; those at swimming pools and beaches; and those at sea) which have specific action to take to minimise loss or damage caused by lightning. The warning is also broadcast to alert the public to the potential threat of lightning. Advice on precautionary actions to be taken by individuals is given in publicity leaflets distributed by the HKO.

6.4 **Tsunami Warning** – If a severe earthquake in the South China Sea or the Pacific Ocean is expected to generate a significant tsunami in Hong Kong (i.e. a tsunami with a height of 0.5 metre or more above the normal tide level) and the estimated time of arrival (ETA) of the tsunami at Hong Kong is within 3 hours, the HKO will issue a **Tsunami Warning** (sample at **Appendix A to Annex D**) to alert members of the public to take precautions (sample precautionary announcements at **Appendix B to Annex D**). If a tsunami may reach Hong Kong but the tsunami height at Hong Kong is not likely to be significant, or a significant tsunami is expected to arrive at Hong Kong but the ETA of the tsunami is more than 3 hours away, then HKO will issue a **Tsunami Information Bulletin** (sample at **Appendix C to Annex D**) to notify members of the public. **Tsunami Warnings** are updated at hourly intervals until a final warning is issued indicating that the tsunami would not reach Hong Kong or has passed Hong Kong. **Tsunami Information Bulletins** are updated once every 6 hours when the time is more than 6 hours before ETA, and once every hour when the time is 6 hours or less before

ETA, until the *Tsunami Information Bulletin* is replaced by a *Tsunami Warning* or a final bulletin. HKO will inform EDB, FSCC, ISD, OFTA, SBDO/EMSC, TD, CEDD, DSD, GFS, MD, PHQCCC, AAHK and PCCW-HKT of the issuance of the *Tsunami Warning* or the *Tsunami Information Bulletin*. These organisations will immediately alert all other parties according to the alerting system set out in **Annex E**.

## 7. OTHER GENERAL WARNINGS

7.1 **Public and Media** - The rainy season in Hong Kong extends from April through to September. Hence, at the beginning of April each year, a general warning of the risks of prolonged heavy rain will be issued to the public and media by HKO in consultation with ISD.

7.2 **Shipping Industry** - Prior to the start of the typhoon season (May - November), a notice will be issued by MD to all local ship owners and agents.

7.3 **Squatter Areas and Floating Population** - Before 1 April each year, after which time heavy rains and landslip can be expected, HAD District Office staff will explain the dangers of heavy and prolonged rainfall during routine visits to squatter areas and typhoon shelters and will distribute leaflets containing the names and addresses of local temporary shelters.

## 8. CONTROLLING AUTHORITIES

*Disaster Site - Fire Services, Police,  
Home Affairs Department,  
Information Services Department and others*

### 8.1 Phase I: Rescue

8.1.1 The objectives of this phase are the rescue of life, protection of property and containment of the situation/incident to prevent any further deterioration.

8.1.2 In the event of a disaster, it will be necessary to exercise strict control over access to the disaster site in order to ensure that the emergency services are not deflected from their task of saving lives, protecting property and safeguarding the disaster site for subsequent expert investigation. This control will apply to both members of the Civil Service and the public.

8.1.3 A disaster site normally consists of 2 zones, namely, the inner cordoned zone and the outer cordoned zone, both of which will be established by the Police. The Police will consult FSD as necessary on the establishment of the inner cordoned zone.

8.1.4 The Senior Fire Officer attending a disaster site will be the Rescue Commander and he will direct all rescue activity within the inner cordoned zone.

8.1.5 The Senior Police Officer attending a disaster site will be designated as the Police Field Commander. Each agency will command their own staff in the discharge of their duties, but the Police, in liaison with the Rescue Commander and the relevant HAD District Officer, will be the overall co-ordinator of the activities of all agencies at the scene.

8.1.6 The Rescue Commander will establish a Fire Services Command Post which will normally be a Mobile Command Unit with green strobe light. He will inform FSCC immediately of the time of the setting up and the location of this post. FSCC will then inform the SBDO or EMSC accordingly.

8.1.7 Representatives of other emergency services wishing to enter the inner cordoned zone of the disaster site will require Fire Services permission. If need be, Fire Services will issue safety helmets to essential personnel for working within the inner cordoned zone.

8.1.8 The Police will secure the outer cordoned zone surrounding the disaster site, and representatives of other departments wishing to enter it will require Police permission. If need be, Police will issue conspicuous vests or armbands to essential personnel for working within the outer cordoned zone.

8.1.9 The Police will establish a Field Command Post(FCP) at the scene.

All police action at the scene shall be directed from the FCP. Likewise, the co-ordination of all other agencies operating at the disaster site shall be managed by Police from the FCP. SBDO or EMSC will be notified of the establishment and location of the FCP.

8.1.10 Close liaison between the Police Field Commander, the Fire Services Rescue Commander and the relevant HAD District Officer will be necessary, as will coordination of the work of other agencies and handling of media & public enquiries. If the demand for emergency medical services exceeds the normal capacity of the single nearest receiving hospital then a Medical Control Officer of Hospital Authority, who is a senior accident and emergency physician, will be sent to the site to command and control the overall medical response. A Medical Team will also be despatched to the scene of incident upon request.

## **8.2 Phase II: Recovery**

8.2.1 The objective of this phase is to return the community to a condition considered acceptable by the community.

8.2.2 The Police will assume overall responsibility for the disaster site, subject to HAD's role as Government spokesman and relief co-ordinator, and also subject to the discharge of any duties or responsibilities vested in any Government Department or agency by law or agreement. They will then take follow up action including the collection of human bodies and remains, the identification of fatalities and the recovery and safe custody of unattended property.

8.2.3 There will normally be an investigative commitment concerning death, injury or damage to property. This responsibility calls for the preservation of evidence and the location of witnesses.

8.2.4 HAD District Officer will co-ordinate relief measures by Social Welfare Department, Housing Department, and other bodies if necessary, at the scene with the support of his/her District Emergency Co-ordination Centre (DECC).

8.2.5 ISD & HAD officers should liaise closely on site and discuss with other relevant departments to determine the best on-site press release strategy to deal with media & public enquiries.

## **8.3 Phase III: Restoration**

8.3.1 The objective of this phase is to restore the community to the state prior to the disaster.

8.3.2 The disaster site should be released as soon as possible but this cannot be done until investigation and other on-site activities have been completed. The Police will not vacate the site until it has been properly handed over to the owner, occupier or a responsible Government Department.

8.3.3 This Phase may take some time because of the need to establish the ownership of property, and return it to the legal claimant.

#### 8.4 *Off Site - Departmental District, Regional and Headquarters Co-ordination Centres*

8.4.1 These centres should provide support to their on-site staff, proactively liaise and work with other centres within their own and other departments, and keep each other informed of the latest progress as necessary. Departments should also proactively liaise and work with SBDO/EMSC through their Headquarters Co-ordination Centres.

#### 8.5 *Emergency Monitoring & Support Centre (EMSC)*

8.5.1 EMSC will be activated if a ***Tropical Cyclone Warning Signal No. 8 or higher***, a ***Black Rainstorm Warning Signal***, or a ***Tsunami Warning*** is issued.

8.5.2 EMSC may also be activated if a major natural disaster has taken place or other potentially dangerous or disruptive severe weather condition is likely. In such events, HKO will inform SB through the SBDO. A decision as to whether to open EMSC will be made by the Secretary for Security, the Permanent Secretary for Security or the Deputy Secretary for Security(2).

8.5.3 Following a decision to activate EMSC, the SBDO will inform the Emergency Support Unit (ESU) of the decision and contact the first rostered EMSC team members who will immediately return to the Government Secretariat basement to man the centre. The Controller of EMSC will inform ISD, HAD, Police, FSD, GFS, HKO, TD, HA, Lands D, DEVB and EDB when the centre is activated.

8.5.4 The ISD Liaison Officer will report to EMSC to establish a two-way link with ISD's Combined Information Centre to feed information on the disaster situation and media and public concerns to EMSC; and to facilitate the issue of press releases, warnings and advice to the public via the media by EMSC. ISD will also relay to EMSC any information on restrictions on transport and other important public messages. The Police and FS Liaison Officers will report to EMSC to establish links with PHQCCC and FSCC respectively and keep EMSC informed of the incidents. The Police Liaison Officer will man the ECACCS terminal and draw important information to the EMSC Controller's attention. The DEVB(Works Branch) Liaison Officer will report to EMSC to liaise with DSD, CEDD, HyD, WSD and other works departments, and will interpret their reports. Other departmental Liaison Officers may be required to report to EMSC depending on the circumstances.

8.5.5 The HKO will contact the SBDO, or EMSC if activated, at hourly intervals (more frequently if the situation warrants) to advise on the weather conditions, including for example the progress of a tropical cyclone and an indication of the likelihood that a **No. 8 Signal** will be issued imminently.

8.5.6 On activation, EMSC will immediately establish links with HKO, ISD, HAD HQ, PHQCCC, FSCC, GFS, CEDD, DSD, HyD, DEVB, TD, Lands D, MD, HA, EDB, SWD and other relevant parties.

8.5.7 The EMSC Controller on duty will be responsible for -

8.5.7.1 liaising generally with departments mentioned in paragraph 8.5.4 above (and others if necessary) through their coordination centres/emergency control centres in order to obtain and collate information on the overall situation as it develops. (Note: Departments which need to liaise and work directly with others should do so directly as far as possible, only involving EMSC in this process when necessary. Nevertheless, departments should be proactive in keeping EMSC and other departments fully informed in a timely and co-ordinated manner of the relevant information of any major incidents and what action is being taken. This should be done through regular situation reports (SITREPS) distributed by appropriate means of communication, e.g. facsimile and Bulletin Board System of EMSC, hourly, or at appropriate intervals as directed by the Controller, EMSC. These regular reports should be supplemented by special telephone and facsimile reports of important or urgent incidents and information);

8.5.7.2 providing a permanent link with the S for S through which urgent decisions on policy matters, difficult problems and emergency powers can be readily obtained by the departments concerned, together with clarification and guidance on the content or implementation of directives;

8.5.7.3 briefing senior Government officers on the situation;

8.5.7.4 acting as a link through which urgent public messages or announcements could be disseminated from the Government Secretariat via ISD for publication or broadcast;

8.5.7.5 obtaining and issuing policy directives on behalf of the Chief Executive's Security Committee (CESC), the Chief Secretary for Administration (CS) and the S for S;

8.5.7.6 advising CESC in the event that emergency legislation needs to be enacted to deal with the situation;

8.5.7.7 co-ordinating the acquisition and mobilisation of civil resources and those of outside bodies if necessary. (Fire Services and Police resources will be acquired and mobilised by their

respective Commanders in liaison with FSCC and PHQCCC. This will also be the case for other departments);

8.5.7.8 co-ordinating disciplined services, civil and military operations and resolving problems as necessary in situations which exceed the resources available to individual departments; and

8.5.7.9 performing any other duties set out in the EMSC Operational Instructions, contingency plans or as may be required by CESC, CS and/or S for S.

8.5.8. Departments including, HyD, FEHD, LCSD, Lands D and BD, will coordinate and carry out the clearance of road blockages to enable early resumption of normal traffic after typhoon or tsunami. When there are very significant damage brought to roadside trees and structures, and hence causing a large number of road blockages, departments may refer to the priority list of important public roads prepared by TD in setting priority on clearance of fallen trees from different sources. To speed up the resumption of public transport services, a designated officer from TD will also attend EMSC to help collate/update public transport information. HyD, FEHD, LCSD, Lands D and BD will each set up a single focal point of contact for direct and regular liaison with EMSC, the Emergency Transport Coordination Centre (ETCC) of TD or with relevant departments, as appropriate. Nevertheless, it should be noted that EMSC is not the command or coordination centre for the department's work and its role is primarily to monitor and provide necessary support to the departments' operation if necessary. The responsibility for clearing road blockages continues to rest with HyD, FEHD, LCSD, Lands D and BD. In respect of coordinating the resumption of the public transport services, the responsibility continues to rest with TD. Hence, in normal circumstances, the departments will continue to establish the necessary coordination amongst them. Priority lists of important public roads maintained by TD will be kept at coordination centres of relevant departments to facilitate the clearance of road blockage.

## **9. NON-GOVERNMENT ORGANISATIONS' RESPONSIBILITIES**

9.1 The following organisations will be responsible for transmitting or broadcasting information about weather conditions, precautionary measures and so on to their customers, clients and members of the public on the advice of HKO or ISD. They should also inform ISD and the Office of the Telecommunications Authority (OFTA) of any disruption to any of their services and effect quick repairs: -

*ATV*  
*Cable TV*  
*Commercial Radio*  
*Metro Radio*  
*PCCW-HKT*  
*Radio Television Hong Kong*  
*TVB*

9.2 The following organisations will be responsible for keeping the MD fully informed of any disruption to their operations during severe weather conditions or a tsunami: -

*Asia Container Terminal Co Ltd*  
*COSCO - HIT Terminals (HK) Ltd*  
*CSX World Terminals Hong Kong Ltd*  
*Hong Kong International Terminals Ltd*  
*Hong Kong Pilots Associations Ltd*  
*Hong Kong United Dockyards Ltd*  
*Kowloon Wharf Terminal & Warehouse Ltd*  
*Modern Terminals Ltd*  
*River Trade Terminal Co Ltd*

9.3 The following organisations will be responsible for advising the TD Duty Officer through its Emergency Transport Co-ordination Centre, and ISD of any likely disruptions to the provision of their public transport services due to severe weather conditions or a tsunami: -

*Discovery Bay Transportation Services Ltd*  
*Hong Kong & Kowloon Ferry Ltd*  
*New World First Ferry Services Ltd*  
*PARK Island Transport Co Ltd*  
*Star Ferry Co Ltd*

*Citybus Co Ltd*  
*Discovery Bay Transit Services Ltd*  
*Kowloon Motor Bus Co (1933) Ltd*  
*Long Win Bus Co Ltd*  
*New HK Bus Co Ltd*  
*New Lantau Bus Co Ltd*  
*New World First Bus Services Ltd*

*Hong Kong Tramways Co Ltd*  
*Kowloon Canton Railway Corporation (East Rail including MOS Rail)*  
*Kowloon Canton Railway Corporation (Light Rail)*  
*Kowloon Canton Railway Corporation (West Rail)*  
*MTR Corporation Ltd*  
*Peak Tramways Co Ltd*

*Aberdeen Tunnel*  
*Kai Tak Tunnel*  
*Cross Harbour Tunnel*  
*Discovery Bay Tunnel*  
*Eastern Harbour Crossing*  
*Lion Rock Tunnel*  
*Shing Mun Tunnels*  
*Tai Lam Tunnel*  
*Tate's Cairn Tunnel*  
*Tseung Kwan O Tunnel*  
*Tsing Ma Control Area (Cheung Tsing Tunnel, Tsing Ma Bridge and Ting Kau Bridge)*  
*Western Harbour Crossing*

9.4 The following organisations will be responsible for advising MD, and ISD of any likely disruption to the provision of their services due to severe weather conditions or a tsunami: -

*Companies Operating Ferries And Other Vessels Services Between Hong Kong and Mainland*  
*New World First Ferry Services Ltd*  
*Shun Tak-China Travel Ship Management Ltd*

9.5 The following organisations will be responsible for advising the AAHK, CAD and ISD of any likely disruptions to the provision of their services due to severe weather conditions:

*Airline Companies*

9.6 The following companies will be responsible for informing EMSD, FSD and ISD of any disruption to services and for making safe and effecting prompt repairs to their supply lines and stations: -

*CLP Power Hong Kong Limited*  
*Hong Kong and China Gas Co Ltd*  
*Hong Kong Electric Co Ltd*

9.7 The following organisation will be responsible for informing all airline companies of the issuance of severe weather warnings/signals and keeping ISD, SBDO/EMSC and the Police in the Airport Emergency Centre of AAHK informed of the running of and any disruption to airline services: -

*Airport Authority Hong Kong*

## 10. BUREAUX'S AND DEPARTMENTS' RESPONSIBILITIES

10.1 During an emergency, Government departments have a general responsibility for carrying out their normal functions as far as possible. Some departments have specific operational and reporting duties in an emergency. In this regard, detailed departmental operational orders/instructions are issued by those departments to the staff concerned.

10.2 It is important that departments concerned should keep SBDO/EMSC and ISD informed in a timely and co-ordinated manner of the development of all rescue/emergency operations and other important events and information so that the latter can fully discharge their respective responsibilities.

10.3 Staff who are not specifically required for duty may, at the discretion of Heads of Department, be allowed to return home before or upon the issuance of a ***Tropical Cyclone Warning Signal No. 8*** and possibly also under certain other severe weather conditions, depending on the journey to be undertaken and the likelihood of certain transport services being suspended. General guidelines for the release of Government staff in the event of severe weather conditions have been issued by Civil Service Bureau.

10.4 The responsibilities of the relevant departments are summarised in the following paragraphs.

### ***10.4.1 Agriculture, Fisheries and Conservation Department (AFCD)***

- The Director of Agriculture, Fisheries and Conservation will be responsible for the operation of the AFCD departmental Emergency Headquarters once a ***Tropical Cyclone Warning Signal No. 8 or higher or a Tsunami Warning*** is issued in order to collate reports of loss and damage and to direct emergency measures. When a ***Red or Black Rainstorm Warning Signal*** or a ***Landslip Warning*** is issued, this Emergency Headquarters may be activated as directed by the Director of Agriculture, Fisheries and Conservation. The Department is responsible for the clearance of trees (except those under the authority of FEHD and LCSD as mentioned in paras. 10.4.14 and 10.4.26 respectively) which block roads or become dangerous during natural disasters. The Department is also responsible for assessing the extent of loss or damage to agriculture and fishery undertakings, reporting this to the ISD Duty Officer, and taking necessary relief measures.

***10.4.2 Architectural Services Department (ArchSD)*** - The Director of Architectural Services will be responsible for advising on the stability of damaged government buildings and for carrying out the necessary emergency repairs.

***10.4.3 Auxiliary Medical Service (AMS)*** - The Chief Staff Officer, AMS, will be responsible for providing volunteers to give medical assistance to augment the services of the Hospital Authority and Department of Health and Fire Services Department's ambulance services in a natural disaster. When a ***Tropical Cyclone Warning Signal No. 8 or higher or a Tsunami Warning*** is issued, contingents of AMS personnel will be deployed to ambulance depots to reinforce regular ambulance personnel as appropriate. When a ***Red/Black***

*Rainstorm Warning Signal*, a *Special Announcement on Flooding in the northern New Territories* or a *Landslip Warning* is issued, the AMS Emergency Duty Team will also be alerted for deployment as and when requested by the Fire Services Department.

**10.4.4 Buildings Department (BD)** - The Director of Buildings will be responsible for the setting-up and operation of an emergency organisation to deal with reports concerning damaged private buildings, building works, landslips and slopes which threaten these buildings.

**10.4.5 Chief Executive's Office (CE's Office)** - See paragraph 10.4.29 below on Security Bureau.

**10.4.6 Chief Secretary for Administration (CS)** - See paragraph 10.4.29 below on Security Bureau.

**10.4.7 Civil Aid Service (CAS)** - The Chief Staff Officer, CAS, will be responsible for deploying trained and disciplined volunteers to assist in operations such as search and rescue, crowd control, registration of victims, casualty handling, evacuation and feeding of disaster victims, clearance of roadways blocked by fallen trees or landslip. During an emergency, CAS personnel may be called in and deployed as required in all parts of the Territory. See also paragraph 3.4 and 5.4.

**10.4.8 Civil Aviation Department (CAD)** - The Director-General of Civil Aviation will be responsible for broadcasting the latest meteorological information to all aircraft operating in the Hong Kong Flight Information Region. In close consultation with the HKO, he will consider restricting air traffic movements. The Director-General will also take a leading role in dealing with any aircraft accidents, air crashes and aircraft salvage operations as detailed in the relevant Security Bureau Circulars.

**10.4.9 Civil Engineering and Development Department (CEDD)** - Head of the Geotechnical Engineering Office (GEO), CEDD will be responsible for deciding in consultation with the HKO when a *Landslip Warning* should be issued or cancelled; for advising Government departments on potential dangers due to landslips and rockfall incidents and on measures to deal with them; for providing advice and arranging for the supply of explosives for clearance work involving rocks, dangerous boulders and other occurrences where the use of explosive is required, and for answering requests for assistance in the saving of life, protection of property, and miscellaneous calls for action or assistance within the resources of his Department. The Head of the Civil Engineering Office (CEO), CEDD will be responsible for advising on the stability of damaged marine facilities and organising necessary emergency repairs.

**10.4.10 Drainage Services Department (DSD)** - The Director of Drainage Services is responsible for clearing and repairing blocked or damaged sewers and storm-drains, including engineered sections of open channels, major stream courses and for ensuring the satisfactory operation of sewage treatment

works and floodwater pumping stations. The Department will normally set up an Emergency Control Centre (ECC) upon the issue of a ***Tropical Cyclone Warning Signal No. 8 or higher, a Red/ Black Rainstorm Warning Signal, or a Tsunami Warning*** or when circumstances so warrant. The ECC acts as DSD's channel of communication with DEVB and other departments and also as a link with EMSC. The Mainland North Region Emergency Control Centre will also be set up upon the issue of Special Announcement on Flooding in the northern New Territories or upon receipt of notification of water discharge from Shenzhen Reservoir. See also paragraph 5.3 above.

**10.4.11 Education Bureau (EDB)** - The Secretary for Education and Manpower will decide whether and if so, at what time schools and kindergartens will be closed, in consultation with the HKO, ISD, DSD and Regional Command & Control Centres of HKPF on the weather, road and traffic situations. Please also see paragraphs, 3.4, 4.4 and 5.7 above.

**10.4.12 Electrical and Mechanical Services Department (EMSD)** - In close liaison with the utilities companies, the Director of Electrical and Mechanical Services will be responsible for ensuring that, in the event of electricity and town gas supplies being interrupted during severe weather conditions, these companies will, as quickly as practicable, carry out repair works to resume supply. Upon request, the Department will also provide special equipment to assist with search and rescue operations.

**10.4.13 Fire Services Department (FSD)** - The Director of Fire Services will be responsible for extinguishing fires, protecting life and property in case of fire or other calamity and emergency rescue work, which includes rendering assistance to people who appear in need of immediate medical attention and conveying them to hospital. The Department will report incidents in which it is involved to the ISD Duty Officer, and pass on necessary information on natural disasters to the AMS and CAS. See also paragraphs 5.4, 8.1.1 to 8.1.10 and 8.5.4 above.

**10.4.14 Food and Environmental Hygiene Department (FEHD)** - The Director of Food and Environmental Hygiene will be responsible for carrying out the following duties:

- (a) under the direction of Police, the removal of dead bodies, and to assist the Director of Health to arrange for temporary mortuary facilities when required;
- (b) supply of temporary toilets and dustbins, collection of refuse and maintenance of hygiene in temporary and relief centres;
- (c) clearance of dangerous or fallen trees after cutting up by LCS D from public roads in the urban area not within recreation sites maintained by AFCD or LCS D and the access to them is not restricted by drop gates. Also see paragraph 8.5.8;
- (d) clearance of refuse from open/surface drains and

- choked gullies; and
- (e) removal of animal carcasses.

**10.4.15**      **Government Flying Service (GFS)** - The Controller, GFS, will be responsible for providing whatever flying services may be required for life-saving, flying of relief supplies, aerial photography, surveillance, casualty evacuation and reconnaissance. All requests for helicopters should be made to the PHQCCC or FSCC. See also paragraph 5.4.

**10.4.16**      **Government Logistics Department (GLD)** - The Director of Government Logistics will be responsible for supplying emergency items (e.g. blankets, sandbags, disinfectant) from its central warehouse at the Government Logistics Centre, and for arranging the urgent purchase of non-standard items. The Land Transport Division of GLD will be responsible for the provision of emergency transport support to deliver these items to user departments if departmental transport is unavailable. A control centre will be set up in the Hong Kong Transport Pool, within one hour from being notified, to co-ordinate the deployment of pool vehicles.

**10.4.17**      **Health, Department of (DH)** - The Director of Health will provide a physicist at a disaster site, if radioactive substances are involved. If required, the Director of Health, with assistance from Director of Food and Environmental Hygiene when necessary, will arrange for temporary mortuary facilities, and for the carrying out of autopsies.

**10.4.18**      **Highways Department (HyD)** - The Director of Highways will be responsible for clearing and repairing blocked or damaged public roads, removing dangerous and fallen boulders and dealing with landslips on unallocated Government land which has not been allocated to any department for maintenance, answering requests for assistance in the saving of life, protection of property and miscellaneous calls for action or assistance within the resources of his Department, and for co-ordinating repairs to utilities during emergencies. The Department is also responsible for keeping TD informed of the progress in their road repair and clearing work at regular intervals to enable TD to co-ordinate and develop transport arrangements as necessary. Also see paragraph 8.5.8.

**10.4.19**      **Home Affairs Department (HAD)** - The Director of Home Affairs will be the “Disaster Relief Co-ordinator”, working through the headquarters emergency control centre and the District Officers. The District Officers will co-ordinate disaster relief efforts at the local level, in co-operation with Social Welfare Department, Housing Department and others as necessary. District Officers of the HAD will be responsible for co-ordinating emergency relief work in their districts and for reporting to their headquarters on the local situation. Each District Office will set up a DECC to be manned around the clock when a **Tropical Cyclone Warning Signal No. 8 or higher**, a **Red or Black Rainstorm Warning Signal**, or a **Landslip Warning** is issued. When a **Special Announcement on Flooding in the northern New Territories** is issued, the District Officers of North and Yuen Long Districts should decide if

the DECC should be activated having regard to prevailing local conditions. When a **Tsunami Warning** is issued, each District Office will activate the DECC. As soon as **Tropical Cyclone Warning Signal No. 1** is issued, the Public Enquiry Hotline of HAD Headquarters will be manned 24 hours a day to answer public enquiries of a non-technical nature. When a **Tropical Cyclone No. 8 Signal or higher**, a **Red or Black Rainstorm Warning Signal**, a **Landslip Warning** or a **Tsunami Warning** is issued, staff of HAD Headquarters will open an Emergency Co-ordination Centre which will act as a channel of communication with the DECCs in District Offices and also as a link with the EMSC. This Centre is responsible for supplying the ISD with regular situation reports on conditions in the districts. HAD shall arrange for community centres/halls to be available to the people who are affected by natural disaster and required temporary shelters. HAD will also provide advice on matters affecting the residents of the district and co-ordinate the strategy for dealing with public enquiries on site. In the event of a major incident, the relevant District Office will make decision on the opening of a help desk which will be manned by HAD, HKPF, FSD, SWD and other organisations where appropriate. See also paragraphs 5.4 to 5.6 above.

**10.4.20 Hong Kong Observatory (HKO)** - Director of the Hong Kong Observatory will be responsible for originating all weather-related warnings, tsunami warnings, and general precautionary announcements to the public and for providing meteorological or tsunami-related advice to other departments/agencies. See also paragraphs 2.1 to 6.4 above.

**10.4.21 Hong Kong Police Force (HKPF)** - The Commissioner of Police will be responsible for the co-ordination of all agencies operating at the scene of the disaster during rescue, recovery and restoration phases until the site is handed over to its lawful owner(s) or other controlling authority. He will also be responsible for the preservation and security of the site during this time. He will control and direct traffic so as to restrict general access and facilitate emergency services' access to the site, and to facilitate unimpeded casualty evacuation. He will also collate and disseminate data on casualties arising from the disaster. If necessary in a major disaster, he will mobilise the Casualty Enquiry Unit at PHQCCC to facilitate this work and notify ISD and SBDO/EMSC of the contact telephone number. The Casualty Enquiry Unit will be supported by the Disaster Victim Identification Unit and Casualty Documentation Teams. Where there is evidence of a criminal offence or criminal negligence, or where directed by the Coroner or other competent authority, he will be responsible for conducting investigations into the facts. Within HKPF, PHQCCC is responsible for co-ordinating the overall Police response to any emergency and for liaison with other Government Departments including SBDO/EMSC, HAD, ISD and TD, keeping them informed of traffic accidents and road conditions and other matters and handling their enquiries. The Police will also keep SBDO/EMSC, and where appropriate ISD, informed of casualties, missing persons and other relevant information. Meanwhile, the Police Public Relations Branch (PPRB) is responsible for informing the media of traffic accidents and road conditions and other matters and handling their enquiries. See also paragraphs 5.4, 8.1.1 to 8.3.2 and 8.5.4 above.

**10.4.22 Hospital Authority (HA)** - The Chief Executive of the Hospital Authority will be responsible for providing emergency medical services during a natural disaster. These services will be co-ordinated by HA's Head Office Duty Officer (HODO). The HA Civil Disaster Control and Co-ordination Centre will be manned upon the issuance of a Black Rainstorm Warning Signal, a Tropical Cyclone Warning Signal No. 8 or higher, a Tsunami Warning or at the outbreak of a major disaster. If situation warrants, the HA will send a medical team and a Medical Control Officer to the site of incident involving a large number of victims at the request of FSD. The HA is also responsible for advising ISD and PHQCCC's Casualty Enquiry Unit, if mobilised, on the number and conditions of victims attended or admitted to its hospitals as a result of the above circumstances.

**10.4.23 Housing Department (HD)** - The Director of Housing, in conjunction with the relevant District Officer(s) of HAD and the Director of Social Welfare, will be responsible for providing emergency accommodation for victims made homeless by natural disasters. HD Departmental Communication Centre, which is a focal point of contact for the public and government departments during emergencies, is manned by Duty Officers outside working hours. The Department is also responsible for advising the ISD Duty Officer of damage to public housing, and of the number of people provided with emergency accommodation.

**10.4.24 Information Services Department (ISD)** - The Director of Information Services will co-ordinate overall public relations strategy as well as the Press Release strategy for handling media enquiries and be responsible for promptly issuing advisory warnings and related information to the SBDO/EMSC, PHQCCC, other government departments and the public via the media, on advice from HKO, Secretary for Development, Head of GEO, CEDD or EMSC. ISD will liaise, through its Combined Information Centre, with departments having key front-line roles in natural disasters and will issue special announcements and regular round-ups on disaster conditions to the SBDO/EMSC, PHQCCC, other government departments and the public via the media. ISD will also co-ordinate and advise the setting up of hotlines by the key responsible departments if situation warrants. See also paragraph 8.5.4 above.

**10.4.25 Lands Department (Lands D)** - The Slope Maintenance Section of Lands D is responsible for emergency and urgent repair works to landslips occurring on man-made slopes on Unallocated Government Land Category 5(f) as detailed in Appendix A of WBTC No. 26/99. The District Lands Officers of the New Territories will be responsible to the DECCs of HAD NT District Office for locating areas affected by a Tropical Cyclone, Rainstorm, Flooding, Landslip or Tsunami, and for making first-hand ground situation reports to the DECCs at the district offices for further necessary action. They will then deal with applications for repairing/rebuilding of damaged structures covered by permits/licences. They will also assist in providing land status reports on the disaster area to relevant Government Departments having a duty to take follow-up action in the aftermath of the disaster. The Department's Survey and Mapping Office is responsible for providing existing mapping data and supplying aerial photography, in conjunction with GFS, of the disaster area.

The Office will also conduct topographical surveys after the disaster if necessary.

**10.4.26 Leisure and Cultural Services Department (LCSD)** - The Director of Leisure and Cultural Services will be responsible for providing staff, when required during an emergency, for the cutting up within the urban areas, and the cutting up and clearance within the New Territories of dangerous or fallen trees within their venue and from roadsides within 5 metres from the edge of a public road except those traversing Country Parks. Also see paragraph 8.5.8. When a Tsunami Warning is issued, LCSD will advise ISD whether to issue an announcement on the closure of beaches and suspension of water activities.

**10.4.27 Marine Department (MD)** - The Director of Marine will be responsible for liaising closely with shipping companies and freight terminal operators during severe weather conditions or a tsunami warning with a view to controlling and deciding whether to close the Port, and for co-ordinating assistance to any vessels found in distress through his Maritime Rescue Co-ordination Centre. The Department will keep the public, ISD and SBDO/EMSC informed of the running of and any disruption to ferry and other vessel services plying Hong Kong/Macao and Hong Kong/Mainland operated by respective companies. The Director will also take the leading role in dealing with any incidents in the harbour or out at sea, as detailed in the relevant Security Bureau Circulars/Contingency Plan.

**10.4.28 Office of the Telecommunications Authority (OFTA)** - The Director-General of Telecommunications will be responsible for promptly relaying the possible Telecommunications Network Congestion Warning to the telecommunications network operators upon receipt of a **Tropical Cyclone Warning Signal No. 8 or above**, a **Red or Black Rainstorm Warning Signal**, or a **Tsunami Warning** from HKO and will monitor any disruption to any of their services and effect quick repairs.

**10.4.29 Security Bureau /Emergency Monitoring and Support Centre** - SB monitors and supports Government's overall response to major emergencies including those arising from severe weather conditions and tsunamis. SB also provides the link and first point of contact between the rest of Government, and Chief Executive's Office (CE's Office) and the Chief Secretary for Administration through the SBDO/EMSC, S for S, PS for S or DS(S)2, depending on the circumstances. The S for S, PS for S or DS(S)2 will decide when CE's Office and CS need to be informed and will advise on how they may need to be involved. Communication with CE's Office or the CS on emergencies should be channelled through SBDO/EMSC. The EMSC will be activated and manned by staff of the Government Secretariat on instructions from the S for S, PS for S or DS(S)2 and whenever a **Tropical Cyclone No. 8 Signal or higher**, a **Black Rainstorm Warning Signal**, or a **Tsunami Warning** comes into effect. It may also be activated as a result of other severe weather conditions and/or emergency situations. Communications between EMSC and departments will normally be through the telephone system and the Bulletin Board System. The EMSC fallback telephone network will be used if there are

problems with the telephone system. Also see paragraphs 8.5.1 to 8.5.7.

**10.4.30 Social Welfare Department (SWD)** - The Director of Social Welfare, in conjunction with the relevant District Officer(s) of HAD and the Director of Housing, will be responsible for providing food, blankets and other emergency items when victims of a disaster are in need and when temporary shelters are open following the issue of a **Tropical Cyclone Warning Signal No. 8 or higher, a Red or Black Rainstorm Warning Signal, a Landslip Warning, or a Tsunami Warning**. The Department has three emergency relief duty teams in Hong Kong, Kowloon and the New Territories respectively, which can be deployed in an emergency. Each of these teams is headed by a Duty Officer (Emergency Relief) who can be contacted through PHQCCC, and who should comply with the Police's requests as far as possible. The Department is also responsible for advising SBDO/EMSC and the ISD Duty Officer of the relief measures which have been taken. The Director of Social Welfare will decide whether, and if so, at what time, day nurseries, day crèches, sheltered workshops, supported employment units and day activity centres for the disabled, day care centres, multi-service centres and social centres for the elderly, early education and training centres and special child care centres for disabled children, activity centres for discharged mental patients and social and recreational centres for disabled persons will be closed. Based on the information provided by the HKO, ISD and Police Public Relations Branch on the weather and traffic situations, the Director will also advise parents and those taking care of the disabled and elderly not to take children, disabled and elderly to the centres in view of the severe weather conditions (though the centres will remain open as usual).

**10.4.31 Transport Department (TD)** - The Commissioner for Transport will be responsible for keeping in contact with the HKO, Police and HyD to get updates on the weather and road conditions to better co-ordinate public transport through close liaison with the respective transport operators and to develop traffic and transport contingency plans. If need be, Emergency Transport Co-ordination Centre (ETCC) will escalate its operation to Fixed Mode Tier 2 or Tier 3. The Department will keep SBDO/EMSC, Police, ISD and HyD fully informed of the details of public transport operations. The Department will also be responsible for alerting and liaising with public transport operators, tunnel and bridges operators and mitigating the effects of traffic and transport problems. Moreover, to facilitate the timely restoration of the public transport system after typhoon, the Department has issued "a list on important routes for road clearance operations after typhoon" to departments concerned for reference when undertaking road clearance work. Also see paragraph 8.5.8.

**10.4.32 Development Bureau (DEVB)** - The Secretary for Development shall provide a Liaison Officer to EMSC to be the DEVB (Works Branch) Liaison Officer. That officer will liaise with DSD, CEDD, HyD, WSD and other departments in the Transport and Housing Bureau, to interpret reports sent to EMSC, advise both EMSC and the departments of important relevant developments and, should the situation warrant it, to co-ordinate the emergency/remedial roles of these departments. Details of the roles of these

departments in emergencies and relevant contact telephone numbers are given in the current DEVB (Works Branch) Emergency Directory and DEVB Technical Circular.

## 11. TRAINING

### 11.1 *Departmental Training Programmes*

11.1.1 A Departmental Training Officer must be designated by each department involved in this contingency plan. He must be familiar with the contents of his own department's plan on the subject, and must ensure that the plan is included in the overall training programme of the department.

11.1.2 Training courses should be given as early as possible to all new staff who will be involved in the plan, whilst refresher courses should be organised for existing staff on a regular basis.

11.1.3 As the correct initial responses are of paramount importance to the success of the plan, officers of the departments below must be thoroughly trained on their roles in dealing with emergency situations arising from natural disasters.

*Education Bureau*  
*Development Bureau*  
*Security Bureau*  
*Departments in the Transport and Housing Bureau*  
*Fire Services Department*  
*Home Affairs Department*  
*Hong Kong Observatory*  
*Hong Kong Police Force*  
*Information Services Department*  
*Transport Department*  
*Works Departments in the Development Bureau*

## **12. EXERCISES**

### **12.1 *Testing of the Plan***

12.1.1 The adequacy and effectiveness of the plan should be fully tested on a regular basis. Suitable scenarios involving natural disasters should also be included in the Government's Command Post Exercises.

### **12.2 *Operational Drills***

12.2.1 Annually, all emergency organisations should test their operational procedures and conduct drills for those of their sections that are involved in the plan.

**13. REVISION OF THE PLAN**

13.1 Security Bureau will co-ordinate annual updating of the contingency plan in consultation with all addressees. Revisions of the plan should also incorporate recommendations made as a result of reports on exercises for improvements in training, equipment, procedures and so on.

13.2 All bureaux, departments and other agencies are responsible for promptly notifying Security Bureau, as and when they occur, of any changes to this contingency plan that may be necessary as a result of reorganisations, changes in capabilities and available resources and other circumstances. SB will then issue suitable amendments to all addressees.

13.3 Suggested amendments to this contingency plan should be addressed to the Emergency Support Unit of the Security Bureau on telephone 2810 2870 or by fax 2501 4755.

## **Hong Kong's Tropical Cyclone Warning Signals**

Please log on to the following webpage of the HKO for details of the Tropical Cyclone Warning Signals:

[http://www.weather.gov.hk/publica/gen\\_pub/tcws.pdf](http://www.weather.gov.hk/publica/gen_pub/tcws.pdf)

## WARNING MESSAGE

### No. 8 Signal likely within 2 hours

1. The following message will be released by HKO via ISD once it has been decided that the issuance of a *No. 8 Signal* is expected within 2 hours -

- (a) The Hong Kong Observatory announces that the Tropical Cyclone Warning Signal Number 8 is expected to be issued at or before noon/midnight/\_\_\_\_\_a.m./p.m./today/tomorrow ( ). Winds locally will strengthen further.
- (b) The Government advises members of the public with long or difficult home journeys or having to return to outlying islands to begin their journeys now. The Government is now making arrangements to release its employees accordingly.  
**[To be issued between 6 a.m. and 10 p.m. only]**
- (c) Announcement by the Education Bureau (EDB): The EDB announces that classes of all schools are suspended today.  
**[To be issued between 4 a.m. and 6 a.m.]**
- (d) Announcement by the Education Bureau (EDB): The EDB announces that classes of all schools are suspended today. Schools should implement contingency measures to ensure the safety of students. They should ensure that conditions are safe before allowing student to return home.  
**[To be issued between 6 a.m. and 11 p.m.]**

2. The above message(s) will only be issued when it is reasonably believed No. 8 Signal will be issued within 2 hours. The media will be asked to broadcast this message at 15-minute intervals.

3. If the broadcast time is expected to be outside normal office hours (i.e. before 9 am and after 5 pm) when the majority of the population are unlikely at their places of work, HKO will suitably rephrase paragraph 1(b) in the above message to reflect the situation at that point in time.

4. ISD will remind the media of the need for announcing details of transport service restrictions or withdrawals immediately after the broadcast of the above message. They will also update the details of such information in liaison with TD and transport operators and immediately inform parties concerned of any changes.

## WARNING MESSAGE

### No. 8 Signal issued

1. The following message will be released by HKO via ISD once the No. 8 Signal has been issued:
  - (a) “Tropical Cyclone Warning Signal No. 8 was issued at \_\_\_\_\_ (Time) on \_\_\_\_\_ (Date).
  - (b) Members of the public are advised to return home at once.  
**[This sentence is to be deleted if Black Rainstorm Warning is in force]**
  - (c) The major land-based public transport systems will continue to operate with some additional services being provided until further notice. Certain public transport services will continue to be available for some time. However, ferry services may cease at short notice. For details of public transport services, please refer to radio or television broadcast.
  - (d) Announcement by the Education Bureau (EDB): The EDB announces that classes of all schools are suspended today.  
**[To be issued between 4 a.m. and 11 p.m.]**
2. The media will be asked to broadcast this message at 15-minute intervals after the issuance of the *No. 8 Signal*.
3. If the broadcast time is expected to be outside normal office hours (i.e. before 9 a.m. and after 5 p.m.) when the majority of the population are unlikely to be at their places of work, HKO will suitably rephrase paragraph 1(b) and 1(c) in the above message to reflect the situation at that point in time.
4. ISD will remind the media of the need for announcing details of transport service restrictions or withdrawals immediately after the broadcast of the above message. They will also update the details of such information in liaison with TD and transport operators and immediately inform parties concerned of any changes.

## **WARNING MESSAGE**

### **Precautionary Announcements with No. 8 Signal (Sample)**

1. Complete all precautions in your home. Lock all windows and doors, fit bars into position and insert reinforced shutters and gates if they are available. Adhesive tape fixed to large window-panes in exposed positions will reduce damage by broken glass. Storm water drains should be cleared of leaves and rubbish.
- 2.# Park your car where it is least likely to be damaged. (# : (2) should not be broadcast at night.)
3. Do not stand near windows on the exposed side of your home. Move all furniture and valuables away from these areas. Make sure you have a safe place to shelter, should windows be broken.
- 4.\* Since seas are very rough / high, you are advised to stay away from the shoreline and not to engage in water sports.
5. Flights at Hong Kong International Airport may be affected by the weather. Please contact your airline for the latest flight information before departing for the airport.
- 6.\* Owners of neon signs are reminded that  
/ they should now arrange for the electricity supply to their signs to be cut off.  
/ the electricity supply to all neon signs should be switched off now.
7. Please listen to your radio or watch your TV for the latest weather information broadcast at the 15th, 30th, 45th and 58th minute of each hour. You can also browse the Hong Kong Observatory's web site for the information.

*(With a departing tropical cyclone:)*

- 8.\* Although the tropical cyclone is moving away from Hong Kong, gales are expected to persist for some time. You are advised to stay indoors until winds moderate and it is safe to go out. On no account should you touch electric cables that have been blown loose.
- 9.\* As gales and violent squalls are still occurring in places, precautions should not yet be relaxed.

\* Delete as appropriate

## WARNING MESSAGE

### Precautionary Announcements with No. 9 or No. 10 Signal (Sample)

1. Do not go outside. If you are reasonably protected, stay where you are and keep well away from all windows. Close all interior doors and make sure children are confined to the least exposed part of your home. On no account should you touch electric cables that have been blown loose.
2. Stay away from exposed windows and doors because glass, already under strain from wind pressure, will shatter if a flying object should hit it. Make sure you have a safe place to shelter, should windows be broken. You should only fix broken windows and doors when there is no danger in doing so.
3. If the eye of the tropical cyclone passes directly over Hong Kong, there may be a temporary lull lasting a few minutes to several hours. This will be followed by a sudden resumption of violent winds from a different direction. Remain where you are if protected and be prepared for destructive winds and the change in wind directions. Listen to broadcast warnings.
- 4.\* Since seas are very rough, / high, / phenomenal, you are advised to stay away from the shoreline and not to engage in water sports.
- 5.\* If you are away from home #and cannot return fairly soon, find a safe place and remain there until the danger is over. (# delete the words "and cannot return fairly soon" if Rainstorm Black Warning is in force).
6. Flights at Hong Kong International Airport may be affected by the weather. Please contact your airline for the latest flight information before departing for the airport.

\* Delete as appropriate.

Hong Kong Observatory

**RAINSTORM WARNING SYSTEM**  
(revised 1998)

The rainy season in Hong Kong is normally between April and September. Rain could be particularly heavy and persistent during May and June, causing severe traffic disruption and on occasions major floods and landslips resulting in casualties.

The rainstorm warning system is designed to alert the public about the occurrence of heavy rain which is likely to bring about major disruptions, and to ensure a state of readiness within the essential services to deal with emergencies. It is independent of other severe weather warnings such as tropical cyclone warning and landslip warning, which will be issued separately where necessary.

There are three levels of warning: **AMBER, RED** and **BLACK**.

The **AMBER** signal gives alert about potential heavy rain that may develop into RED or BLACK signal situations. There will be flooding in some low-lying and poorly drained areas. Key Government departments and major transport and utility operators are put on alert.

The **RED** and **BLACK** signals warn the public of heavy rain which is likely to bring about serious road flooding and traffic congestion. They will trigger response actions by Government departments and major transport and utility operators. The public will be given clear advice on the appropriate actions to take.

Once issued, the signals are broadcast over radio and television. For your own safety, listen to radio or television announcements for the latest information.

**GUIDE TO THE RAINSTORM SIGNALS**

**AMBER RAINSTORM WARNING SIGNAL**

Heavy rain has fallen or is expected to fall generally over Hong Kong, exceeding 30 millimetres in an hour, and is likely to continue for a period of time.

**Action**

Members of the public should take necessary precautions to reduce their exposure to risk posed by heavy rain, such as flooding.

Parents, students, school authorities and school-bus drivers should listen to radio or television announcements on the weather, road and traffic conditions.

Candidates for public examinations should attend the examination as normal, but should listen to radio or watch television in case the weather deteriorates suddenly.

Farmers and fish pond owners, particularly those in low lying or flood frequented areas, should take the necessary precautions to minimise losses, which include checking and clearing the drainage system within and around the farm/fish ponds to ensure that all the drains are not blocked. Where possible, fish pond operators should reduce the water level of ponds which are likely to be flooded.

<b>RED RAINSTORM WARNING SIGNAL</b>	<b>BLACK RAINSTORM WARNING SIGNAL</b>
Heavy rain has fallen or is expected to fall generally over Hong Kong, exceeding 50 millimetres in an hour, and is likely to continue.	Very heavy rain has fallen or is expected to fall generally over Hong Kong, exceeding 70 millimetres in an hour, and is likely to continue.
<b><u>Action</u></b>	
<p>Students should stay home or, if already at school, should remain there until the end of normal school hours and conditions are safe for them to return home.</p> <p>If the RED/BLACK signal is issued when some students have set out for school -</p> <ul style="list-style-type: none"> <li>◇ School-bound students should normally proceed to school unless the road or traffic conditions ahead are not safe.</li> <li>◇ School-bus drivers should listen to radio broadcasts on the latest development of the rainstorm and ensure that students are taken to a safe place, normally the school, unless road or traffic conditions ahead warrant otherwise.</li> <li>◇ Schools should arrange to be open and appropriately staffed to look after any students arriving until the end of normal school hours. Schools must also ensure that conditions are safe before allowing students to return home.</li> </ul> <p>Candidates for public examinations should listen to radio or watch television for an announcement to be made by the Hong Kong Examinations and Assessment Authority.</p> <p>Drivers should beware that there are likely to be serious road flooding and traffic congestion.</p> <p>People should avoid going near easily flooded watercourses or passing through flooded areas. People whose home may be seriously flooded should consider evacuating their home until the rain has eased and flood water subsided.</p>	
<p>Employees working outdoors in areas exposed to rain should suspend outdoor duties if weather conditions in those areas so warrant.</p> <p>People who have to travel should carefully consider weather and road conditions.</p> <p>If the RED signal is issued before working hours, employees should report for duty as usual, provided that transport services are available. Supervisors are encouraged to adopt a flexible attitude in case their staff have genuine difficulties in arriving at work on time.</p> <p>If the RED signal is issued during office hours, employees working indoors should remain on duty as usual unless it is dangerous to do so. Employees in areas where transport services are about to be suspended can be exceptionally released at the discretion of the supervisor. In exercising their discretion, supervisors should take into account the weather and road conditions.</p>	<p>Stay indoors or take shelter in a safe place until the heavy rain has passed.</p> <p>Employees working outdoors in exposed areas should stop work and take shelter.</p> <p>People having no safe place to go may take temporary refuge in any of the special temporary shelters opened by the Home Affairs Department.</p> <p>Employers are advised not to require their employees to go to work unless prior agreement on work arrangements during rainstorms has been made.</p> <p>People who are already at work should stay where they are unless it is dangerous to do so.</p>

NOTES ON ISSUANCE OF THE WARNING SIGNALS

1. The rainfall criteria for the issuance of rainstorm warning signals are for guidance only. When prolonged rain occurs, the signals may be issued even if these rainfall criteria are not breached for individual hours.
2. The Observatory will make an effort to issue the **AMBER** signal a couple of hours ahead of anticipated heavy rain. However, this lead time may be considerably shorter in case the heavy rain develops rapidly. Not all **AMBER** signals will be followed by **RED**.
3. The Observatory will endeavour to issue the **RED** and **BLACK** signals before the specified rainfall levels are reached. However, local severe rainstorms are extremely difficult to forecast. The lead time will generally be very short. There will even be situations in which a **RED** signal is issued without a preceding **AMBER**. Similarly, a **BLACK** may be issued without a preceding **RED**.

**RAINSTORM WARNING SYSTEM  
Sample Rainstorm Warning Signal Messages**

**Issuance of Amber/Red/Black Rainstorm Warning Signal Message**

Amber/Red/Black Rainstorm Warning Signal has been issued at \_\_\_\_\_ a.m./p.m.

**Cancellation of Amber/Red/Black Rainstorm Warning Signal Message**

Amber/Red/Black Rainstorm Warning Signal was cancelled at \_\_\_\_\_ a.m./p.m.

Please continue to exercise due care, especially whilst travelling or if working outside.

**Replacement of the Black Rainstorm Warning Signal by Amber/Red Rainstorm Warning Signal Message**

The Amber/Red Rainstorm Warning Signal has been issued to replace the Black Rainstorm Warning Signal at \_\_\_\_\_ a.m./p.m.

Please continue to exercise due care, especially whilst travelling or if working outside.

**Replacement of the Red Rainstorm Warning Signal by Amber Rainstorm Warning Signal Message**

The Amber Rainstorm Warning Signal has been issued to replace the Red Rainstorm Warning Signal at \_\_\_\_\_ a.m./p.m.

Please continue to exercise due care, especially whilst travelling or if working outside.

**RAINSTORM WARNING SYSTEM**  
**Sample Special Announcements**

**Amber Rainstorm Warning Signal Special Announcement**

The Rainstorm Warning Signal is now Amber. This means that heavy rain has fallen or is expected to fall generally over Hong Kong, exceeding 30 millimetres in an hour.

There will be flooding in some low-lying and poorly drained areas. People who are likely to be affected should take necessary precautions to reduce their exposure to risk posed by the heavy rain and flooding.

- \* Members of the public are advised to pay attention to weather changes as these might lead to Red or Black warning signal situations. Those who have definite duties during rainstorms should be prepared.
- \* According to present indications, the Hong Kong Observatory may issue the Red Rainstorm Warning Signal later. Those who have definite duties during rainstorms should be prepared.
- \* According to present indications, it is not likely that the Red Rainstorm Warning Signal will be issued.

(The following sentence should be used when the Amber Rainstorm Warning Signal is issued to replace the Red or Black signal.)

- \* Please continue to exercise due care. People who have to travel should carefully consider weather and road conditions and take necessary precautions.

Please listen to radio or watch television for traffic conditions and further announcements on the rainstorm.

**Red Rainstorm Warning Signal Special Announcement**

The Rainstorm Warning Signal is now Red. This means that heavy rain has fallen or is expected to fall generally over Hong Kong, exceeding 50 millimetres in an hour, and is likely to continue.

Further heavy rain could cause, if not already caused, serious road flooding and traffic congestion and could disrupt normal school hours. Parents, students, school authorities and school-bus drivers should listen to radio or television announcements on schools. People who have to travel should carefully consider the weather and road conditions and take necessary precautions.

- \* Meanwhile, those with duties to perform during rainstorms should now go to their duty stations.
- \* According to present / latest / indications, the Red Rainstorm Warning Signal is expected to last for \_\_\_\_\_ hours. / until \_\_\_\_\_ a.m. / p.m. / today / tomorrow.
- \* According to present / latest / indications, the Hong Kong Observatory will consider cancelling the Red Rainstorm Warning Signal in \_\_\_ hours. / at \_\_\_\_\_ a.m./p.m. today/tomorrow.

(The following two sentences should be used when the Red Rainstorm Warning Signal is issued to replace the Black signal.)

- \* The Observatory reminds members of the public to continue to exercise due care against the danger posed by the heavy rain.
- \* People who are likely to be affected by heavy rain and flooding should take necessary precautions to avoid losses.

Please listen to radio or watch television for traffic conditions and further announcements on the rainstorm.

### **Black Rainstorm Warning Signal Special Announcement**

The Rainstorm Warning Signal is now Black. This means that heavy rain has fallen or is expected to fall generally over Hong Kong, exceeding 70 millimetres in an hour, and is likely to continue.

Because of seriously flooded roads and inclement weather conditions, you are advised to take shelter in a safe place and stay there. Parents, students, school authorities and school-bus drivers should listen to radio or television announcements on schools. Do not attempt to travel until the Black Rainstorm Warning Signal is no longer in force and traffic conditions have improved.

- \* According to present / latest / indications, the Black Rainstorm Warning Signal is expected to last for \_\_\_\_\_ hours. / until \_\_\_\_\_ a.m. / p.m. / today / tomorrow.
- \* According to present / latest / indications, the Observatory will consider issuing the **Amber / Red** Rainstorm Warning Signal to **replace** the Black Rainstorm Warning Signal in \_\_\_\_\_ hours. / at \_\_\_\_\_ a.m. / p.m. / today / tomorrow.
- \* According to present / latest / indications, the Observatory will **consider cancelling** the Black Rainstorm Warning Signal in \_\_\_\_\_ hours. / at \_\_\_\_\_ a.m. / p.m. / today / tomorrow.

Please listen to radio or watch television for traffic conditions and further announcements on the rainstorm.

- \* Delete as appropriate.

## **Thunderstorm, Rainstorm, Flood and Landslip Warning Services in Hong Kong**

### **INTRODUCTION**

In 1966, three rainstorms resulted in the loss of 86 lives and in June 1972, 148 people died in landslips caused by heavy rain. To minimise the loss of life and damage to property due to these natural disasters, the Hong Kong Observatory started issuing thunderstorm and heavy rain warnings in 1967. In 1983, the warning system was re-organised to provide for separate warnings of thunderstorms, floods and landslips. Rainstorm warnings were introduced in 1992. The system was revised in 1998, and the Observatory now provides warnings of thunderstorms, rainstorms and landslips in Hong Kong, and issues special announcements regarding flooding in the northern New Territories.

There is no lack of calamities in recent years. Torrential rain in July 1994 caused the collapse of a retaining wall at the Kwun Lung Lau Estate building in Kennedy Town, killing five people and necessitating the evacuation of two thousand families. In August 1995, heavy rain following the passage of Severe Tropical Storm Helen brought widespread landslips, killing three persons in Hong Kong Island.

### **THUNDERSTORMS**

Thunderstorms, which may or may not be accompanied by heavy rain, are localised phenomena. It is possible for intense thunderstorms to pass very close without any effect and thunderstorms that appear to be approaching often die out before they arrive. Also, a thunderstorm affecting one part of Hong Kong may not affect other parts.

Lightning can damage electrical installations, start fires and cause death by electrocution. Violent gusts often occur in squall lines associated with thunderstorms. Boats are known to have capsized in squalls. Windshear associated with squall lines is also a potential hazard to aircraft during landing and take-off.

Under certain favourable conditions, thunderstorms may give rise to intense columnar vortices in the shape of funnel clouds reaching the ground or the sea. These vortices are known as tornadoes or waterspouts depending on their occurrences over land or sea respectively. They have very strong winds and a very low central air pressure. When a tornado passes directly overhead the wind and pressure effects result in great forces which could shatter weak structures. Five tornadoes are known to have occurred in Hong Kong. Waterspouts are rather more common and were reported in local waters on 20 days during the period 1961-1997. There have been reports of waterspouts capsizing small boats in nearby waters and damaging coastal facilities in Hong Kong as they made landfall.

Hail sometimes forms in well-developed thunderstorm clouds. Hailstones are hard pellets of ice which are usually a few millimetres in diameter. Larger hailstones have alternate rings of clear ice and frost. Large hailstones can damage crops, particular young fruits and vegetables, and can break windows, glass houses and car windscreens. During the period 1961-1997 there were 28 days in which hail was reported in Hong Kong.

## **HEAVY RAIN**

Although heavy rain is not uncommon at any time of the year in Hong Kong, it occurs most often during the summer months. Indeed, close to 80 per cent of the annual rainfall occurs between May and September. The highest ever hourly rainfall recorded at the Hong Kong Observatory is 115.1 millimetres which occurred during the rainstorm on 16 July 2006. Rainstorms often bring about serious road flooding and traffic disruptions.

Flooding occurs when the rainfall rate is so large that natural or artificial drainage is insufficient to drain away the fast accumulating water on the ground. Floods are usually fairly transient in the urban area but may last up to a few hours in those rural areas with large catchment and gentle slopes, such as the plains in the northern New Territories.

Hong Kong is mostly of hilly terrain. During heavy and prolonged rain, man-made and natural slopes may fail and therefore pose considerable threat to people living or in the vicinity of these slopes.

Due considerations are given to both the rain intensity and duration when landslip warnings, rainstorms warning signals and special announcements on flooding are issued.

## **METEOROLOGICAL WATCH**

In order to issue timely warnings to the public, the weather forecaster in the Observatory's Central Forecasting Office keeps a continuous watch on the weather. Besides weather reports from manned stations and automatic weather stations in Hong Kong and nearby areas, the forecaster is aided by satellite cloud pictures, weather radar images, upper-air information from wind profilers, raingauge readings, and information on lightning locations.

## **THE WARNINGS**

Warnings of thunderstorm, rainstorm and landslip supplement routine weather forecasts by drawing attention to the severe weather. Special announcements of flooding alert people in the northern New Territories to floods caused by heavy rain in the area. The warnings and announcements are intended to prompt the public to take precautionary measures and to assist engineers, contractors and others who are likely to suffer losses due to the natural disasters. They also alert the relevant government departments and organisations to take appropriate actions, such as opening of temporary shelters, search and rescue operations, closure of individual schools and relief work. They are issued irrespective of whether tropical cyclone signals are displayed.

Like all forecasts, the warnings and announcements represent the forecaster's assessment of the most likely development in the weather based on the latest information available at the time. There will unavoidably be false alarms as well as occasions when thunderstorms or heavy rain develop suddenly and affect some parts of Hong Kong before a warning or announcement could be issued.

Once issued, the warnings and announcements are sent to the Information Services Department for dissemination to government departments and organisations concerned, and to radio and television stations for immediate broadcast. They are also issued to information service providers for dissemination to those who subscribe to their special alerting services.

### ***Thunderstorm warning***

The thunderstorm warning is intended to give short-term notice (within one to a few hours) of the likelihood of thunderstorms affecting any part of Hong Kong. It is issued irrespective of whether they are widespread or isolated. The warning will be renewed if thunderstorms are expected to persist beyond the time stated in the original warning or cancelled if thunderstorms are not expected to occur in the remaining part of the original validity period.

### ***Rainstorm warning signals***

When the Amber Rainstorm Warning Signal is issued, it gives alert about potential heavy rain that may develop into Red or Black Rainstorm Warning Signal situations. There will be flooding in some low-lying and poorly drained areas. The Red signal means that heavy rain could cause serious road flooding and traffic congestion, and may affect schools and public examinations. The Black signal means that there are major disruptions and inclement weather. The public will be given clear advice on the appropriate actions to take.

### ***Special announcement on flooding in northern New Territories***

A special announcement of flooding due to heavy rain in the northern New Territories will be issued by the Observatory whenever significant flooding is expected to occur or is already occurring in the low-lying plains of northern New Territories. This announcement is broadcast by radio and television to the public, and will be updated at appropriate intervals until heavy rain ceases.

### ***Landslip warning***

A warning of landslips will be issued by the Observatory in consultation with the Geotechnical Engineering Office whenever landslips are considered to be likely as a result of heavy rain which has occurred and is expected to continue in the next few hours. A *Landslip Special Announcement* is broadcast by radio and television stations to the public. The announcement is updated at appropriate intervals until the likelihood of landslips diminishes.

**Monthly Normals of Rainfall Parameters and Thunderstorm Activity  
at the Hong Kong Observatory for the 30 years 1971-2000  
and Extreme Values for 1884-1939 & 1947-2005**

Month	Rainfall Parameters										Thunderstorm Activity	
	Total	Maximum daily	Maximum hourly	Duration*	No. of Days with measurable rain+	Number of Hourly Observations with rainfall Amounts					No. of days with lightning	No. of days with thunderstorm
						10mm	20mm	30mm	40mm	50mm		
	mm	mm	mm	h								
Jan	24.9	99.8	21.8	43	5.6	0.07	0.03	-	-	-	0.13	0.1
Feb	52.3	86.1	31.9	76	9.5	0.40	0.07	0.03	-	-	1	0.97
Mar	71.4	130	52.5	91	10.5	1.30	0.47	0.17	0.07	0.03	1.77	1.63
April	188.5	190.2	92.4	87	11.7	4.57	1.83	0.77	0.37	0.13	4.77	4.2
May	329.5	520.6	109.9	101	15.5	8.93	3.83	1.60	0.57	0.30	6.67	5.27
June	388.1	411.3	108.2	95	18.8	9.57	3.37	1.80	0.83	0.40	7.7	5.6
July	374.4	534.1	100.7	80	17.8	10.17	3.03	1.00	0.43	0.23	8.47	5.9
Aug	444.6	334.2	82.1	87	17.4	11.63	3.87	1.83	0.93	0.37	11	8.1
Sept	287.5	325.5	84	68	14.8	7.70	2.63	0.90	0.37	0.13	6.93	4.3
Oct	151.9	292.2	71.6	50	8.1	3.77	1.13	0.60	0.27	0.13	1.13	0.8
Nov	35.1	149.2	44.2	36	5.7	0.20	0.03	-	-	-	0.23	0.23
Dec	34.5	177.3	51.7	36	4.3	0.33	0.13	-	-	-	-	-
Year	2382.7	534.1	109.9	850	139.5	58.64	20.42	8.70	3.84	1.72	49.8	37.1

\* Includes rainfall < 0.05 mm

+ Excludes daily rainfall <= 0.05 mm

## Landslip Special Announcement (Sample)

<p><i>Issuance</i></p> <p><i>When first issuing Landslip Warning</i></p> <p><i>When updating</i></p>	<p>For all Broadcasting Stations – Attention : Duty Announcer</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>* Please broadcast the following announcement as soon as possible and thereafter. It is desirable to broadcast at 15-minute intervals during the first hour if programme commitments allow.</p> </div> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>* Please broadcast the following as soon as possible.</p> </div> <p>Landslip Special Announcement issued by the Hong Kong Observatory at _____ a.m./p.m. on _____:</p> <p>The Hong Kong Observatory has issued the Landslip Warning. Keep away from steep slopes or retaining walls.</p> <p>Motorists should avoid driving in hilly areas or on roads with landslip warning signs.</p> <p>Cancel non-essential appointments, stay at home or remain in a safe shelter.</p> <p>If you see signs of landslip danger, keep away from the area and report to the Police.</p> <p>Temporary shelters provided by District Offices are now open. If you receive a notice to evacuate because of landslip danger, or believe that your home is endangered, you should make immediate arrangements to move to a safe shelter.</p>	
<p>Cancellation</p>	<p>For all Broadcasting Stations – Attention : Duty Announcer</p> <hr/> <p>* <i>Please cease all Landslip Special Announcement.</i></p>	
<p>WLSA - 14 October 2004</p> <p>* Delete as appropriate</p>	<p>MINDS Operator</p>	<p>Date / time of dispatch</p> <p>_____ H _____</p>

Special Announcement on Flooding in the Northern New Territories  
(Sample)

	<p>For all Broadcasting Stations - Attention: Duty Announcer</p> <div style="border: 1px solid black; padding: 5px;"> <p>Please broadcast the following announcement as soon as possible and thereafter. It is desirable, programme commitments allowing, to broadcast at 15-minute intervals during the first hour.</p> </div>	
<p><b>Issuance</b> (WFNTSA)</p> <p><b>Update</b> (WFNTSA)</p>	<p>* Special Announcement on Flooding in the northern New Territories issued by the Hong Kong Observatory at _____ a.m. / p.m. on _____.</p> <p>* Special Announcement on Flooding in the northern New Territories updated by the Hong Kong Observatory at _____ a.m. / p.m. on _____.</p> <p>Heavy rain is affecting the northern part of the New Territories, especially in Yuen Long / Pat Heung and Kam Tin / San Tin and Ngau Tam Mei / Sheung Shui / Ta Kwu Ling / Sha Tau Kok / area(s). More than _____ millimetres of rainfall have been recorded there in the past few / _____ hours. Residents in northern New Territories, who are likely to be affected, are advised to take necessary precautions to avoid possible flood damage. They should also pay attention to the flood sirens if they are nearby.</p>	
<p><b>Cancellation</b> (WFNTSAC)</p>	<p>Special Announcement on Flooding in the northern New Territories cancelled by the</p> <p>* Hong Kong Observatory at _____ a.m./p.m. on _____.</p>	
<p>WFNTSA - 1 March 2006 WFNTSAC Use Warning Distribution List G.</p> <p>* Delete as appropriate.</p>	<p>Originator</p>	<p>Date / time of dispatch</p> <p>_____ H _____</p>

## Thunderstorm Warning Announcement (Sample)

### \*ISSUANCE

Thunderstorm Warning was issued at \_\_\_\_ a.m./p.m.\* on \_\_\_\_\_. It will be valid until \_\_\_\_:00/ 15/ 30/ 45\* a.m./p.m. today/tomorrow\*. One or two / A few / Frequent / isolated / Scattered / Occasional/ squally \* thunderstorms are expected to occur over Hong Kong / Kowloon, / Hong Kong Island, / Lantau, / New Territories, / New Territories West, / New Territories East,\* / \_\_\_\_\_.

### \*UPDATE

The Thunderstorm Warning issued at \_\_\_\_ a.m./ p.m.\* on \_\_\_\_\_ will remain in force until \_\_\_\_:00/ 15/ 30/ 45\* a.m./p.m.\* today/ tomorrow\*. One or two / A few / Frequent / isolated / Scattered / Occasional/ squally \* thunderstorms are expected to occur over Hong Kong / Kowloon, / Hong Kong Island, / Lantau, / New Territories, / New Territories West, / New Territories East,\* / \_\_\_\_\_.

### \*EXTENSION

The Thunderstorm Warning issued at \_\_\_\_ a.m./ p.m.\* on \_\_\_\_\_ has been extended until \_\_\_\_:00/ 15/ 30/ 45\* a.m./pm\* today/ tomorrow\*. One or two / A few / Frequent / isolated / Scattered / Occasional/ squally \* thunderstorms are expected to occur over Hong Kong / Kowloon, / Hong Kong Island, / Lantau, / New Territories, / New Territories West, / New Territories East,\* / \_\_\_\_\_.

# Gusts exceeding \_\_\_\_\_ kilometres per hour were recorded at / in\* \_\_\_\_\_ at around \_\_\_\_\_ a.m./p.m. \*.

# Gusts reaching \_\_\_\_\_ kilometres per hour or above may affect / may continue to affect\* Hong Kong / Kowloon, / Hong Kong Island, / Lantau, / New Territories, / New Territories West, / New Territories East,\* / \_\_\_\_\_.

# Hail was reported at / in\* \_\_\_\_\_ at around \_\_\_\_:30\* a.m./p.m. \*.

#<sup>i</sup> Tornado / Waterspout was reported at / in\* \_\_\_\_\_ at around \_\_\_\_:30\* a.m./p.m. \*.

#Members of the public are advised to take the following precautions when thunderstorms occur:

- #1. Stay indoors. Seek shelter in buildings if you are engaging in outdoor activities.
- #2. Do not stand on high grounds. Keep away from highly conductive objects, trees or masts.
- #3<sup>ii</sup>. Take precautions against violent gusts. Beware of flying debris and falling objects.
- #4<sup>ii</sup>. Drivers using highways and flyovers should reduce speed and be alert to violent gusts.
- #5<sup>iii</sup>. Evacuate from heavy rain affected low-lying areas with poor drainage to avoid flooding.

### \* CANCELLATION

Thunderstorm Warning was cancelled at \_\_\_\_ a.m./ p.m.\* on \_\_\_\_\_.

- i. Seek Duty SSO's comment when issue.
- ii. Consider to use only when gusts of more than 19.5 m/s (70 km/h) have been recorded or are expected to occur at stations not on high grounds.
- iii. Consider to use when localized heavy rain is affecting low-lying regions where more than 50 mm of rainfall has been recorded in an hour, heavy rain is expected to continue and no rainstorm warning is triggered.

WTS – 18 Jul 2005 *Delete as appropriate #Optional, delete if not appropriate Use Warning Distribution List F.	Originator	Date / time of dispatch _____H _____
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**Water Discharge from Shenzhen Reservoir Announcement**

Hong Kong has been informed by the Shenzhen Authority that water would be discharged from the Shenzhen Reservoir from about \_\_\_\_\_ am/pm today ( ).

There may be a risk of flooding in the northern parts of the New Territories. Residents are advised to take necessary precautions to avoid possible flood damage. They should also pay attention to the flood siren if they are nearby. Various government departments, including District Offices (North) and (Yuen Long), Drainage Services, Police, Fire Services, Water Supplies, Hong Kong Observatory and Social Welfare have been informed in order that they can take any necessary measures.

The District Offices (North) and (Yuen Long) are making arrangements to inform local residents of the appropriate actions to take.

End/

## **Tsunami Warning Service in Hong Kong**

### **BASICS OF TSUNAMI**

A tsunami is a series of water waves caused by an undersea earthquake, or much less frequently by an undersea volcanic eruption or an undersea landslide. Most tsunamis occur in the Pacific Ocean which covers more than one-third of the earth's surface and is surrounded by a series of volcanoes, deep-ocean trenches and island arcs where most earthquakes occur. This circum-Pacific seismic belt is the boundary of major tectonic plates and is also called the "ring of fire" for its high seismicity. Hong Kong is located more than 600 kilometres from this belt.

Between 1901 and 2000, about 1000 tsunami events were observed or recorded worldwide. Among these events, around 140 tsunamis brought about casualties or damage, most of them were local or regional tsunamis that affected areas within a few hundred kilometres or up to a thousand kilometres of the source respectively. On average about once in fifteen years, a great earthquake generates a tsunami that sweeps across the entire Pacific and causes destruction at distant coasts. For example, the magnitude 9.5 Chilean earthquake in 1960 brought about significant loss of life and property in Hawaii and Japan. The magnitude 9.0 earthquake off the west coast of northern Sumatra on 26 December 2004 also caused great damage around the Indian Ocean, as far as the east African coast.

Tsunami waves are long water waves with wavelengths in the order of hundreds of kilometres. In deep waters of the open sea, a tsunami travels as fast as a commercial jet plane, has small amplitudes, and is often not felt by people on vessels. When a tsunami approaches the coast, it slows down with the decrease of water depth to speeds similar to those of a car moving on the road. The tsunami then shoals up and becomes dangerous. The height that a tsunami reaches at a specific location depends, besides the magnitude and fault mechanism of the earthquake, also on the shapes of the sea floor and the shoreline, and on the direction of propagation and other characteristics of the tsunami. The run-up height of a tsunami, i.e. the height that the sea reaches up the shore, further depends on the slope and other characteristics of the land surface. It is generally highest at beaches and shallow bays facing the approaching tsunami.

### **RISK OF TSUNAMI IN HONG KONG**

The chance of Hong Kong being affected by a significant tsunami (i.e. one with a tsunami height of 0.5 metre or higher) is very small. Since automatic tide gauges were installed in Hong Kong in the early 1950s, only four measurable tsunamis were recorded, all not significant. This is notably due to the sheltering effect of the land masses of Taiwan and the Philippines against tsunamis originated in the Pacific.

Similar to storm surges caused by approaching tropical cyclones, significant tsunamis may bring about inundation of low-lying coastal areas. Because of historical concern about storm surges, Hong Kong is already well prepared against tsunamis. Coastal designs of built-up areas in Hong Kong and general land use have catered for storm surges. This offers protection against tsunamis of considerable height (more than two times the highest tsunami recorded in Hong Kong since the early 1950s). For example, the land around Victoria Harbour is at least 2.5 metres above the mean sea level, and 1 metre above the highest astronomical

tides. Built-up areas around the Tolo Harbour are another metre higher than those around the Victoria Harbour.

## **TSUNAMI PREDICTION**

While larger earthquakes in general generate bigger tsunamis, there is no one-to-one correspondence because the size of a tsunami also depends on how the sea floor is displaced by the earthquake so that the magnitude of the earthquake is not the only factor. More elaborate methods of seismic analysis have emerged in recent years for inferring the mechanism and scale of earth crust rupture associated with an undersea earthquake. But some necessary details are still difficult to determine for an accurate estimation of the size of the resulting tsunami, particularly in the early stage of seismic analysis.

At a few places in the world where there is abundance of past tsunami data, the height of the tsunami at any specific point can be estimated from the location, magnitude and other characteristics of the earthquake using analogies from historical tsunami events. This is however not applicable to places which has not experienced major tsunamis in the past, like Hong Kong. The absence of historical data also makes calibration of numerical tsunami models a problem.

While earthquake detection and seismic analysis do enable early warnings of tsunamis to be made, it carries an inherent degree of uncertainty and the false alarm rate could be rather high. It should be noted that tsunami height forecast is still not practicable in most countries because of the above limitations.

## **TSUNAMAI WATCH AND WARNING**

After an earthquake is detected by its seismograph network, HKO would transmit the arrival time of seismic waves to the Pacific Tsunami Warning Center (PTWC) in Hawaii and the Northwest Pacific Tsunami Advisory Center (NWPTAC) in Japan. PTWC and NWPTAC will make use of seismic data collected from seismographs all over the world to determine the location, depth and magnitude of the earthquake and assess the likelihood of a tsunami. PTWC and NWPTAC would send tsunami messages to organisations participating in the Pacific Tsunami Warning and Mitigation System, including HKO, on details of any tsunami forecast including the estimated time of tsunami arrival and locations affected. HKO will assess on the basis of tsunami messages from PTWC and NWPTAC whether the tsunami would reach Hong Kong, and if so, the estimated time of arrival and whether it would be significant in Hong Kong. HKO will issue tsunami warnings to the public if a significant tsunami is expected to arrive in Hong Kong within 3 hours.

HKO also provides real-time sea level data from its tide gauges to PTWC and NWPTAC for tsunami monitoring. PTWC and NWPTAC make use of sea level data from coastal tide gauges and ocean-bottom mounted sea level sensors, updated seismic analysis, and other data to update their tsunami messages.

For a severe earthquake which occurs in the South China Sea close to Hong Kong, HKO will issue a warning as soon as practicable even before receiving any tsunami message from PTWC or NWPTAC. In such cases, an assessment on the possibility of a significant tsunami in Hong Kong will be made based on the intensity of the locally felt tremor and the location of the earthquake as determined by HKO's own seismograph network.

**Annex D  
Appendix A**

**Tsunami Warning**

1. The following information will be given in a Tsunami Warning:
  - (a) Time of occurrence, location and magnitude of the earthquake that generates the tsunami.
  - (b) The estimated time of arrival of the tsunami at Hong Kong.
  - (c) An advice for members of the public to take precautions.
  - \* (d) The predicted normal tides of the day in Hong Kong.
  - \* (e) Tsunami heights recorded at other places around the Pacific.
  - (f) Precautionary announcements (see Appendix B to Annex D).

Items marked with an asterisk are optional depending on availability of information and relevance for a particular event.

**Annex D**  
**Appendix B**

**Precautionary Announcements to Accompany a Tsunami Warning**

- (a) Stay away from shores, beaches and low-lying coastal areas. If you are there, move inland or to higher grounds. The upper floors of high, multi-storey, reinforced concrete building can provide safe refuge if there is no time to quickly move inland or to higher grounds.
- \*<sup>(b)</sup> Do not engage in water sports.
- \*<sup>(c)</sup> Vessels should stay away from the shore or shallow waters. If vessels remain moored in typhoon shelters, their moorings should be doubled and all personnel should leave the vessels and head for higher grounds.
- (d) Please observe these precautions until the Observatory issues the final tsunami warning bulletin for this event.
- (e) Please stay tuned to the radio or television for further information.

Items marked with an asterisk are optional depending on relevance for a particular event.

**Annex D**  
**Appendix C**

**Tsunami Information Bulletin**

1. The following information will be given in a Tsunami Information Bulletin:
  - (a) Time of occurrence, location and magnitude of the earthquake that generates the tsunami.
  - (b) A statement to the effect that a tsunami has been or might be generated, and its estimated time of arrival at Hong Kong. If the tsunami height at Hong Kong is expected to be below 0.5 metre, this will be mentioned.
  - \*(c) The predicted normal tides of the day in Hong Kong.
  - \*(d) Tsunami heights recorded at other places around the Pacific.

Items marked with an asterisk are optional depending on availability of information and relevance for a particular event.

**Annex E  
E1**

**Alerting System**

<i>To be informed by</i>	<i>Through</i>	<i>Page</i>
Hong Kong Observatory	Telephone and Fax	E2
Hong Kong Observatory	Fax	E2
Information Services Department	Telephone and Fax	E3
Information Services Department	Government News Information System	E4
Security Bureau Duty Officer or Emergency Monitoring & Support Centre if activated	Telephone	E5
Police Headquarters Command and Control Centre	Police Internal Communications System	E5
Fire Services Communication Centre	Telephone and Fax	E5
Transport Department	Telephone and Fax	E6
Marine Department	Telephone and Fax	E7
Civil Aviation Department	Radio Broadcasts	E7
Airport Authority Hong Kong	Electronic media	E7
PCCW-HKT	Telephone	E8

**Annex E  
E2**

**To be informed by HKO through Telephone and Fax**

***Government Bureaux/Departments/Offices***

Education Bureau  
Fire Services Communication Centre  
Information Services Department  
Office of the Telecommunications Authority  
Police Headquarters Command and Control Centre  
Security Bureau Duty Officer (or EMSC if activated)  
Transport Department

***Communications***

PCCW-HKT

**To be informed by HKO through Fax**

***Government Bureaux/Departments/Offices***

Civil Engineering and Development Department  
Drainage Services Department  
Government Flying Service  
HKO Airport Meteorological Office  
Marine Department (Maritime Rescue Co-ordination Centre)

***Media***

ATV  
Cable TV  
Commercial Radio  
Metro Radio  
Radio Television Hong Kong  
TVB

**Annex E**  
**E3**

**To be informed by *ISD* through Telephone and Fax**

***Government Bureaux/Departments/Offices***

Agriculture, Fisheries and Conservation Department  
Airport Authority Hong Kong  
Architectural Services Department  
Civil Aviation Department  
Civil Engineering and Development Department  
Department of Health  
Drainage Services Department  
Development Bureau  
Food and Environmental Hygiene Department  
Government Property Agency  
Highways Department  
Home Affairs Department  
Hong Kong Examinations and Assessment Authority  
Housing Department  
Judiciary  
Labour Department  
Lands Department  
Leisure and Cultural Services Department  
Office of the Telecommunications Authority  
Police Public Relations Branch  
Security Bureau  
Social Welfare Department

***Media***

ATV  
Cable TV  
Commercial Radio  
Metro Radio  
Radio Television Hong Kong  
TVB

**To be informed by HKO through  
ISD Government News Information System**

***Government Bureaux/Departments/Offices***

Agriculture, Fisheries and Conservation Department  
Correctional Services Department  
Customs and Excise Department  
Department of Health  
Department of Justice  
Education Bureau  
Development Bureau  
Environmental Protection Department  
Food and Environmental Hygiene Department  
Government Secretariat Press Offices  
Home Affairs Department  
Hong Kong Observatory  
Hospital Authority  
Housing Department  
Information Services Department  
Innovation and Technology Commission  
Judiciary  
Labour Department  
Leisure and Cultural Services Department  
Marine Department  
Police Public Relations Branch  
Social Welfare Department  
Trade and Industry Department  
Transport Department

***Media***

ATV  
Cable TV  
Commercial Radio  
Metro Radio  
Radio Television Hong Kong  
Major newspapers and news agencies  
TVB

**Annex E**  
**E5**

**To be informed by SBDO  
(or EMSC if activated) through Telephone**

Chief Executive's Office  
Chief Secretary for Administration  
Secretary for Security  
EMSC

**To be informed by PHQCCC through  
its Internal Communications System**

***Government Bureaux/Departments/Offices***

Police Regional Command and Control Centre Hong Kong  
Police Regional Command and Control Centre Kowloon  
Police Regional Command and Control Centre New Territories  
Police Regional Command and Control Centre Marine  
Police Traffic Branch  
Police Public Relations Branch

**To be informed by FSCC through Telephone and Fax**

***Government Bureaux/Departments/Offices***

Auxiliary Medical Service  
Civil Aid Service

## To be informed by **TD** through **Telephone and Fax**

### *Mass Transit Systems*

Kowloon Canton Railway Corporation (East Rail including MOS Rail)  
Kowloon Canton Railway Corporation (Light Rail)  
Kowloon Canton Railway Corporation (West Rail)  
MTR Corporation Ltd

### *Bus Services*

City Bus Co Ltd  
Discovery Bay Transit Services Ltd  
Kowloon Motor Bus Co Ltd  
Long Win Bus Co Ltd  
New Hong Kong Bus Co Ltd  
New Lantau Bus Co Ltd  
New World First Bus Services Ltd  
Park Island Transport Co Ltd

### *Ferry Services*

Discovery Bay Transportation Services Ltd  
Hong Kong & Kowloon Ferry Ltd  
New World First Ferry Services Ltd  
Park Island Transport Co Ltd  
Star Ferry Co Ltd

### *Tramway Services*

Hong Kong Tramways Co Ltd  
Peak Tramways Co Ltd

### *Tunnels and Suspension Bridges*

Aberdeen Tunnel  
Kai Tak Tunnel  
Cross Harbour Tunnel  
Discovery Bay Tunnel  
Eastern Harbour Crossing  
Lion Rock Tunnel  
Shing Mun Tunnels  
Tai Lam Tunnel  
Tate's Cairn Tunnel  
Tseung Kwan O Tunnel  
Tsing Ma Control Area (Cheung Tsing Tunnel, Tsing Ma Bridge and Ting Kau Bridge)  
Western Harbour Crossing

### *Others*

Hong Kong School of Motoring Ltd  
Public Omnibus Operators Association Ltd

**Annex E**  
**E7**

**To be informed by MD through Telephone and Fax**

***Hong Kong/Macau and Hong Kong/Mainland Ferry Vessel Services***

Companies Operating Ferry and Other Vessel Services between Hong Kong and China/Macau and Hong Kong/Mainland

***Freight Terminals and Dockyards***

Asia Container Terminal Co Ltd  
COSCO - HIT Terminals (HK) Ltd  
CSX World Terminals Hong Kong Ltd  
Hong Kong International Terminal Ltd  
Hong Kong Pilots Association Ltd  
Hong Kong United Dockyards Ltd  
Kowloon Wharf Terminal & Warehouse Ltd  
Modern Terminals Ltd  
River Trade Terminal Co Ltd

**To be informed by AAHK through Electronic Media**

***Airport Operations***

All Airline Companies  
Air Cargo Operators

**To be informed by CAD through Radio Broadcasts**

***Aircraft Services***

Aircraft operating in the Hong Kong Flight Information Region

## To be informed by **PCCW-HKT** through **Telephone**

### ***Government Bureaux/Departments/Offices***

Buildings Department  
Civil Aviation Department  
Commerce and Economic Development Bureau  
Correctional Services Department  
Customs & Excise Department  
Education Bureau  
Electrical and Mechanical Services Department  
Development Bureau  
Environmental Protection Department  
Executive Council Secretariat  
Fire Services Department  
Food and Environmental Hygiene Department  
Government Logistics Department  
Government Secretariat Departmental Administration Unit  
Housing Department  
Immigration Department  
Independent Commission Against Corruption  
Office of the Government Chief Information Officer  
Inland Revenue Department  
Lands Department  
Legislative Council Secretariat  
Leisure and Cultural Services Department  
Lion Rock Tunnel  
Post Office  
Transport Department  
Treasury  
Vocational Training Council  
Water Supplies Department

### ***Hospital Authority***

Hospital Authority Headquarters – News Duty Officer  
Hospital Authority Headquarters – Data Centre  
Hospital Authority Headquarters – One Stop Enquiry Services

### **HKE**

Pamela Youde Nethersole Eastern Hospital  
Ruttonjee Hospital & Tang Shiu Kin Hospital  
St. John Hospital  
Tung Wah Eastern Hospital

<u>HKW</u>	Queen Mary Hospital
<u>KC</u>	Queen Elizabeth Hospital
<u>KE</u>	United Christian Hospital Tseung Kwan O Hospital
<u>KW</u>	Caritas Medical Centre Kwong Wah Hospital Princess Margaret Hospital/Kwai Chung Hospital Yan Chai Hospital
<u>NTE</u>	Prince of Wales Hospital North District Hospital Alice Ho Miu Ling Nethersole Hospital
<u>NTW</u>	Castle Peak Hospital Tuen Mun Hospital Pok Oi Hospital

Note: The Hospital Authority has subscribed to the PCCW-HKT's adverse weather warning services, and is alerted through this means.