
Experience on Industry Engagement – A practical approach taken by HKCAD

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Industry Engagement

Industry

- **Air Operators, local and non-local**
- **Maintenance Organisations**
- **Aerodrome Operator**
- **Fellow government / non-government organisations**

Engagement

- **Role of Industry in the accident investigation process**



The Approach

HKCAD Forum with Hong Kong Industry Partners on Air Accident Investigation in Hong Kong



**Over 100 participants
from
37 Organisations**

Event Programme

- 1 - Introduction to Accident Investigation - Legislation and Procedures
- 2 - Investigation Process
- 3 - Role of Industry
- 4 - Q&A
- 5 - Visit to HKCAD Accident Investigation Facilities



Purpose of the Forum

Safety Promotion & Information Sharing

- *Objective of Accident Investigation*
- *Investigation Procedures and Processes*
- *Recent Enhancements by HKCAD*
- *How Industry Partners may help and work together with HKCAD*





Agenda 1 –

Introduction to Accident Investigation – Legislation and Procedures

Accident Investigation - Legislation and Procedures

1. **International Standards**
2. **Legislation and Procedures**
3. **Organisation of HKCAD Accident Investigation Division**



Accident Investigation - Legislation and Procedures

Accidents and Incidents

1. No matter how safe air transport is, accidents and incidents may occur.
2. They can be sudden and dramatic in effect, causing damage, injury and death.
3. They may also occur in an area or at a time which is remote, inhospitable and outside normal working hours.
4. Therefore, there is always the need to plan and be prepared for the occurrence of accidents or incidents.



1. International Standards

ICAO Standards and Recommended Practices :-

- ❖ Annex 13 – Aircraft Accident and Incident Investigation;
- ❖ Doc 9756 – Manual of Aircraft Accident and Incident Investigation.

Objective:

Prevention of accidents and incidents,
NOT for apportioning blame and liability



1. International Standards



ICAO Annex 13 Para. 5.1

5.1 **Standard** - The State of Occurrence shall institute an investigation into the circumstances of the accident and be responsible for the conduct of the investigation,

ICAO Annex 13 Para. 5.1.1 and 5.1.2

5.1.1 **Recommendation** - The State of Occurrence should institute an investigation into the circumstances of a serious incident.....

5.1.2 **Standard** - The State of Occurrence shall institute an investigation into the circumstances of a serious incident when the aircraft is of a maximum mass of over 2 250 kg.

1. International Standards

In the event of an aircraft accident or serious incident in Hong Kong, China, HKCAD will discharge the international responsibility and institute and conduct an investigation in accordance with ICAO Annex 13



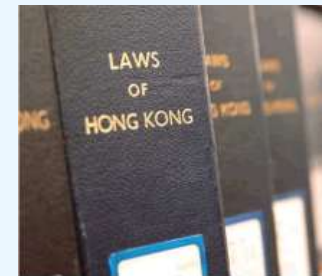
2. Legislation and Procedures

Chapter 448B of the Laws of Hong Kong

- **Hong Kong Civil Aviation (Investigation of Accidents) Regulations**
- <http://www.legislation.gov.hk/eng/home.htm>

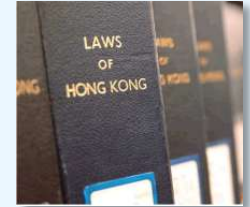
CAP 448B HONG KONG CIVIL AVIATION (INVESTIGATION OF ACCIDENTS) REGULATIONS

- ☞ [Cap 448B Empowering section](#)
- ☞ [Cap 448B Part I PRELIMINARY](#)
- ☞ [Cap 448B reg 1 Citation](#)
- ☞ [Cap 448B reg 2 Interpretation](#)
- ☞ [Cap 448B reg 3 Application of regulations](#)
- ☞ [Cap 448B reg 4 Purpose of Accident Investigation](#)
- ☞ [Cap 448B Part II ACCIDENT INVESTIGATION](#)
- ☞ [Cap 448B reg 5 Duty to furnish information relating to accidents](#)
- ☞ [Cap 448B reg 6 Information relating to accident](#)
- ☞ [Cap 448B reg 7 Removal of damaged aircraft](#)
- ☞ [Cap 448B reg 8 Inspectors of accidents](#)
- ☞ [Cap 448B reg 9 Power of Inspectors](#)
- ☞ [Cap 448B reg 10 Inspector's investigation and report](#)
- ☞ [Cap 448B reg 11 Notice of Inspector's report and representations thereon](#)

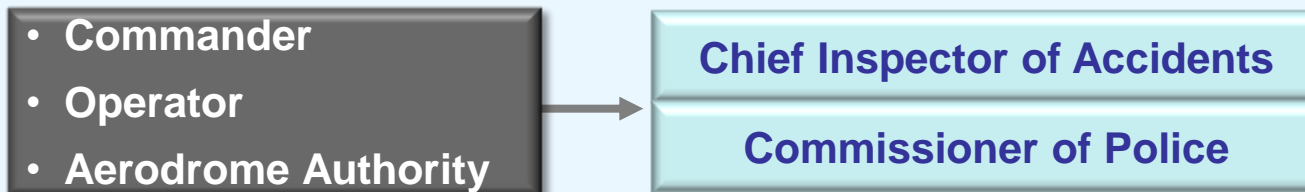


2. Legislation and Procedures

Legislation - Chapter 448B (Cap. 448B)



- *Definitions : Accident, Incident, etc. (Regulation 2)*
- *Purpose of Investigation : **Determine circumstances and causes, Not to apportion blame or liability** (Regulation 4)*
- *Duty to furnish information (Regulation 5)*

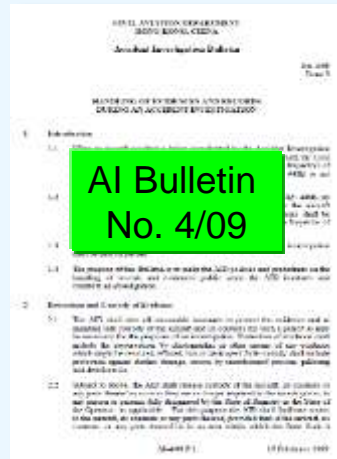
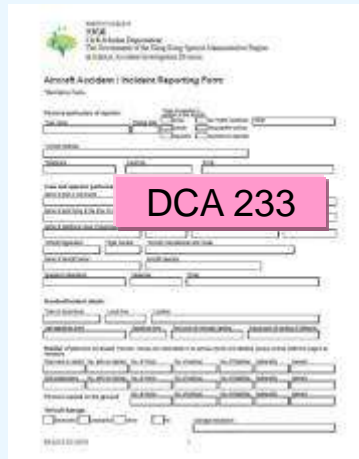
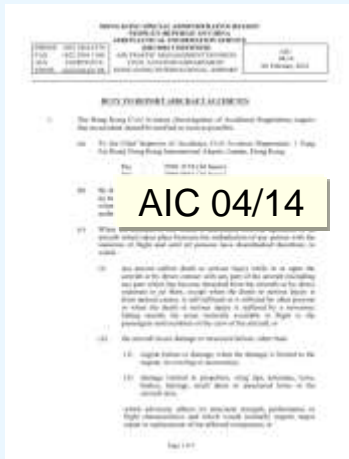


- *Removal of damaged aircraft (Regulation 7)*
- *Power of Inspectors (Regulation 9)*
- *Inspector's Investigation and Report (Regulation 10)..... etc.*

2. Legislation and Procedures

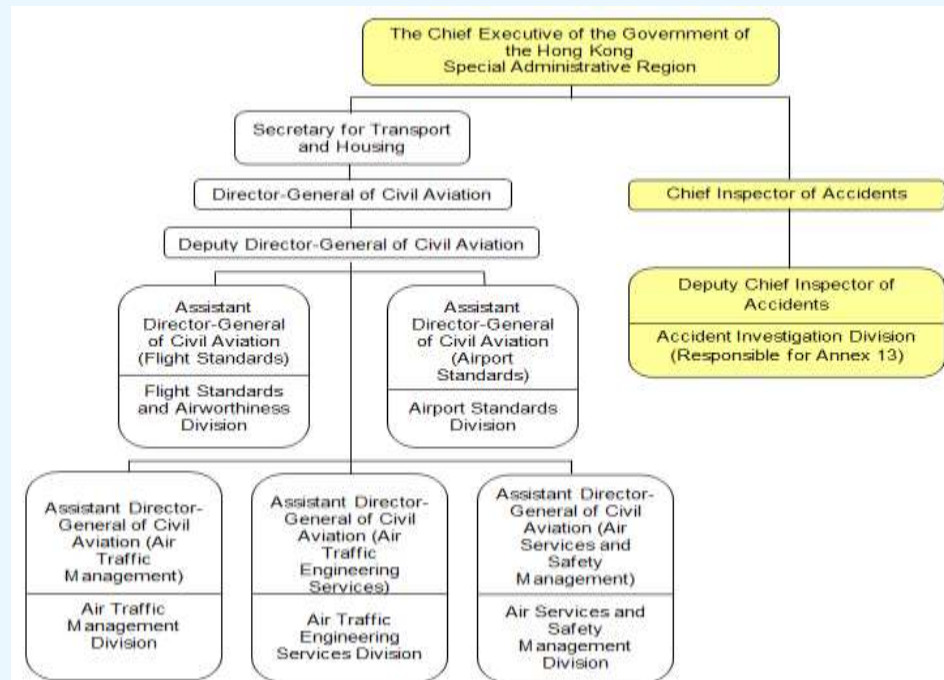
Procedures

- <http://www.cad.gov.hk/english/notifyairacc.html>
- http://www.hkacrc.gov.hk/HK_AIP/aic/AIC04-14.pdf
- **Notification of an Aircraft Accident / Serious Incident – Form DCA233**
- **AIC / Accident Investigation Bulletins**
- **Exposition and Handbook for Inspectors**



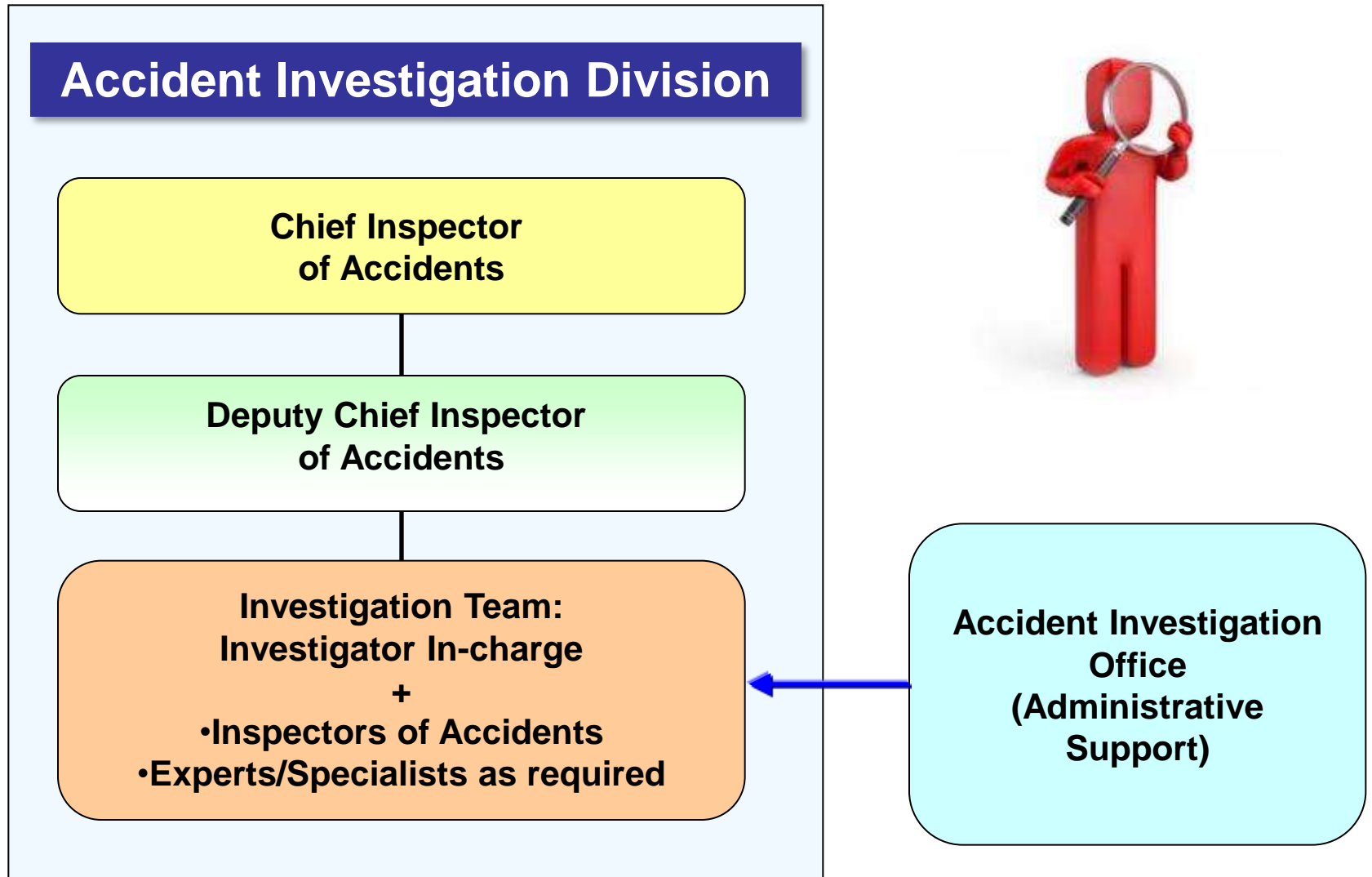
3. Organisation of AID

- **Accident Investigation Division (AID)** operates on a stand-by basis.



- It will be **mobilized** in the event of an accident or serious incident occurring in Hong Kong or under the jurisdiction of Hong Kong in accordance with ICAO Annex 13 and Cap. 448B.

3. Organisation of AID



3. Organisation of AID

Clear policy to ensure impartiality

1. **Avoid conflict of interest** between members of the investigation team and parties under investigation.
2. Members of the investigation team shall be **bound by the professional conduct** laid down in the **Government's Civil Service Regulations and adhere to the objective of accident investigation** in defiance of political and commercial considerations.
3. The investigation team is to **report directly to the Investigator-in-charge**.
4. The **findings and recommendations** of an investigation team shall **not be influenced or tampered with** by any other parties not involved in the investigation.



Agenda 2 – Investigation Process

Investigation Process

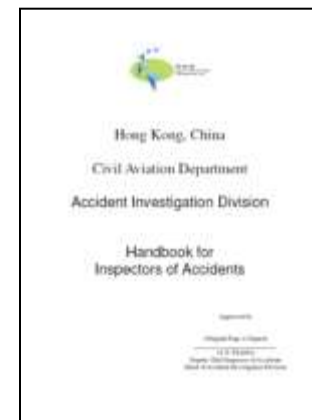
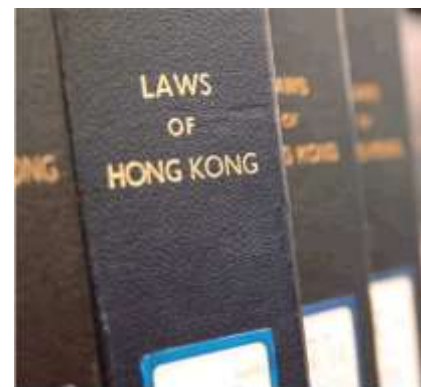
Contents

- 1. Response**
- 2. Site Control**
- 3. Establish Circumstances**
- 4. Conclusion and Safety Recommendations**
- 5. Final Report**

Annex 13 and Cap. 448B

Investigations are conducted in accordance with :

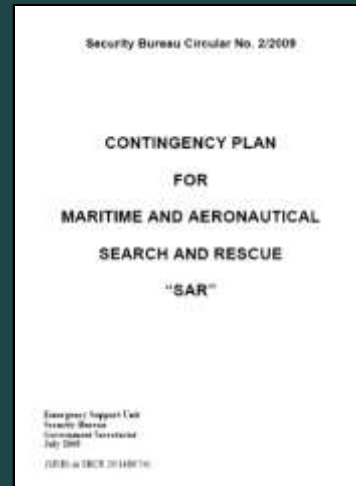
1. The Hong Kong Civil Aviation (Investigation of Accidents) Regulations [Laws of Hong Kong, Cap. 448B]
2. ICAO Annex 13 – Aircraft Accident and Incident Investigation and other guidance documents
3. HKCAD Procedures Document and Inspectors Handbook



Investigation Process - 1

1- Initial response to accidents

- ❖ Deploy a Go-Team [Investigator-in-charge (IIC) supported by IAs]
- ❖ Coordination & Notification
 - ➔ Overseas agencies – Concerned States investigation agencies, ICAO, etc.
 - ➔ Hong Kong – Search and Rescue agencies, AAHK, Operator, maintenance organisations, concerned Government Departments etc.



2 - Site Control

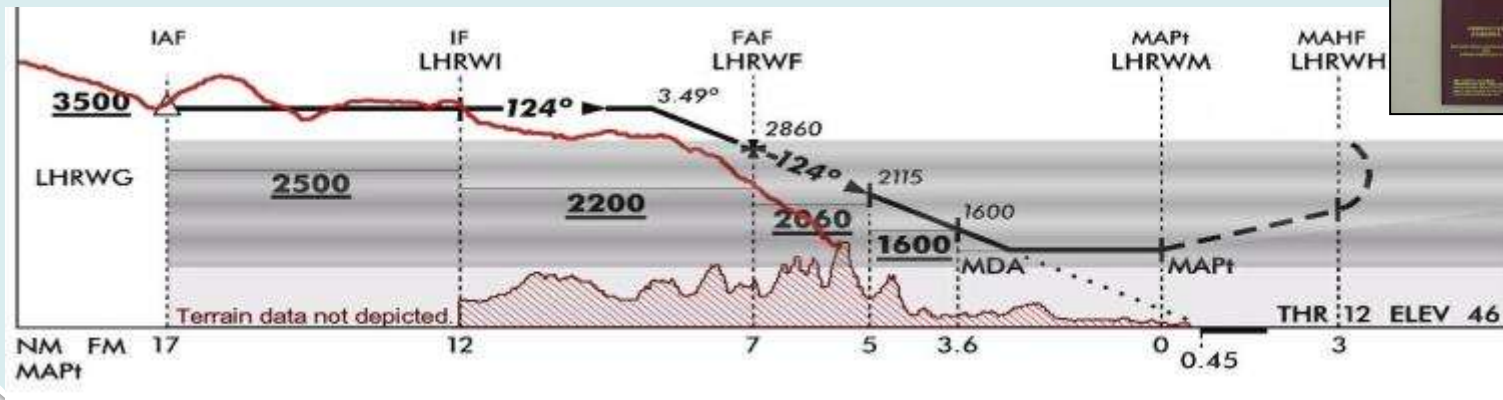
- ❖ Salvage aircraft and preserve evidence
- ❖ Coordination & Cooperation
 - Rescue Agencies (Fire Services Department & Hong Kong Police Force)
 - Air Operators / Maintenance Organisations / Aerodrome Operator
 - Medical (Hospital Authority / Department of Health)
 - Site Survey (Government Flying Service, Lands Department)



Investigation Process - 3

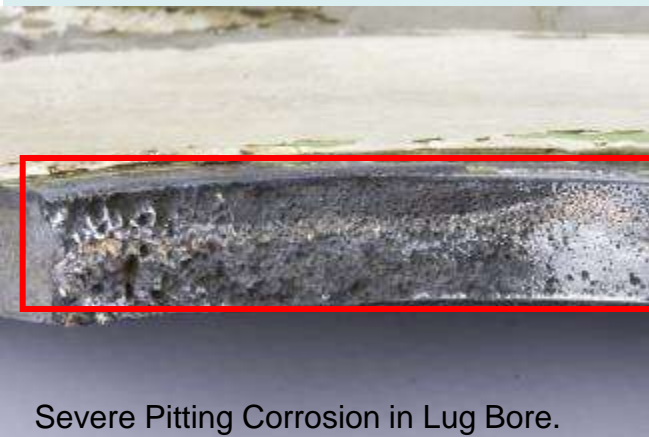
3 - Establish Circumstances

- ❖ Survey wreckage, wreckage plot
- ❖ Secure records, recordings and samples
 - ATS & weather records
 - Flight recorders (FDR/CVR download)
 - Documentation (flight plan, load sheet, passenger / cargo manifest, maintenance records, crew licence, operations manual, etc.)
 - Witness statements



4 – Analysis / Conclusions / Safety Recommendations

- ❖ Analysis on established factual information
- ❖ Conclusions of the investigation
 - ❖ Findings
 - ❖ Causes
 - ❖ Contributing Factors
- ❖ Safety Recommendations



5 – Final Report

- ❖ Confidentiality – All accident related documents shall be treated as **confidential** unless the report or related information has been published or released by HKCAD
- ❖ Follow ICAO Annex 13 format, adapted to the circumstances of the accident or incident

- Objective of the investigation
- Synopsis
- Body
 1. *Factual Information*
 2. *Analysis*
 3. *Conclusions (Findings, Causes & Contributing Factors)*
 4. *Safety Recommendations*
- Appendices



- ❖ Made **publicly available** in the interest of accident prevention



Agenda 3 – Role of Industry

Role of Industry

Contents

- 1. Obligation**
- 2. Cooperation**
- 3. Future Initiatives**



1. Obligation

Objective of Investigation

- *For safety improvement and prevention of future accidents*
- *Not for apportioning blame and liability*
- **When** to report ?
- **How** to report ?
- **What** to report ?



1. Obligation

Reporting Requirements



- **Timely reporting** of Accident and Serious Incident to HKCAD
- **(Regulation 5 of Cap 448B)** Duty to furnish information relating to accidents by the Commander / Operator / Aerodrome Authority
- **AIC 04/14 - Duty to Report Aircraft Accidents** (<http://www.hkacg.gov.hk/>)
- **Form DCA 233 - Accident/Incident Reporting Forms**
(<http://www.cad.gov.hk/english/notifyairacc.html>)

AIC 04/14

DCA 233

1. Obligation

Reporting Requirements

→ Key Information includes :

- *Type, Model, Nationality and Registration Mark of the Aircraft*
- *Owner, Operator and Hirer (if any) of the aircraft*
- *Name of Commander*
- *Date, Time and Position of the Occurrence*
- *Last point of departure and next point of intended landing*
- *Crew and Persons on board, numbers killed and seriously injured*
- *Nature of Accident and Extent of Damage*



1. Obligation

Protect / Preserve Evidence

- **Protect and Preserve Evidence :**
 - Aircraft / Components / Wreckage
 - FDR/CVR data
 - Documentations (e.g. maintenance doc, pax / cargo info.) etc.

- **Assist investigators to restrict access to damaged aircraft / accident site**



Respect Confidentiality

- **Confidential information**



2. Cooperation Sought

Lessons Learnt from the Past

- **Classification of Accidents / Incidents** (*Regulation 2 of Cap. 448B*)
- **Investigation authority** – Chief Inspector of Accidents shall determine whether or not an investigation shall be carried out into any accident (*Regulation 8 of Cap. 448B*)



2. Cooperation Sought



Lessons Learnt from the Past

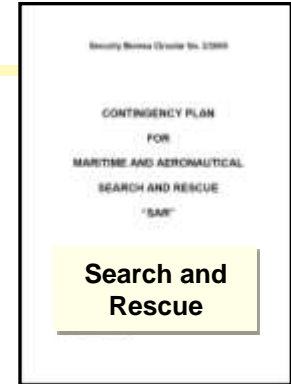
- **Do Not Remove / Access / Interfere with Damaged Aircraft** unless authorised by Chief Inspector of Accidents (*Regulation 7 of Cap. 448B*)
- **Cooperation** with the investigation team during the investigation (*Regulation 9 and 22 of Cap. 448B*)
- **Observe the Confidentiality requirements** – All accident related documents shall be treated as **confidential** unless the report or related information has been published or released by HKCAD

CONFIDENTIAL

2. Cooperation Sought

Swift Emergency Response

- Regularly review and be familiar with the established **Emergency Response Plan (ERP)** / **Procedures Manual (EPM)**
 - **Contingency Plans for Dealing with Emergencies**, including SAR, Salvage of Crashed Aircraft, Dealing with Aircraft Crash in Hong Kong, etc.
 - **Operators' ERP / EPM**
 - **AAHK EPM**
 - **HKCAD and ATMD EPM, etc.**



2. Cooperation Sought

→ Provide **regular emergency response training** to staff concerned to ensure competency and **awareness of the roles of the different agencies**

- DGCA – Search Director for aeronautical SAR in Hong Kong
- Fire Services Department – Crash Commander
- Roles of other agencies, e.g. the Emergency Monitoring and Support Centre (EMSC), HKPF, GFS, DH, HA, HAD, AAHK, ISD, etc.



→ **PR Preparation**

→ Identify next-of-kin & **Assistance** to those affected and their families

3. Future Initiatives

Working more closely together

- ***Joint training, drills, exercises and workshops to evaluate and enhance readiness and capability***
 - ***Aircraft accident investigation***
 - ***Search and rescue***
 - ***Emergency response, etc.***

- ***Continually review and improve our mechanisms to facilitate emergency handling and accident or incident investigation***





民航處
CIVIL AVIATION
DEPARTMENT

Questions?

Contact us at : aid@cad.gov.hk

