CAD 382

THE MANDATORY OCCURRENCE REPORTING SCHEME

Information and Guidance

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Civil Aviation Department
Hong Kong, China

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Foreword

The purpose of this publication is to describe the Civil Aviation Department (CAD) Mandatory Occurrence Reporting (MOR) Scheme and to provide guidance to those who, by the associated legislation, are involved in its operation.

If the Scheme is to make a real contribution to flight safety in Hong Kong civil aviation, it is most important that all concerned are fully aware of its aims and requirements.

The Director-General of Civil Aviation (hereinafter referred as Director-General) welcomes any comment and suggestion for the improvement of both the Scheme and this publication. Such comments should be addressed to Assistant Director-General of Civil Aviation (Flight Standards) at the address below.

Channels of Reporting

Completed Occurrence Report Form (DCA 201) / Runway Incursion Reporting (DCA 235) / AIRPROX Report Form (DCA 232) is to be addressed to:

Assistant Director-General of Civil Aviation (Flight Standards)
Flight Standards and Airworthiness Division
Civil Aviation Department
10/F., Commercial Building
Airport Freight Forwarding Centre
2 Chun Wan Road
Lantau
Hong Kong

To minimize delays in reporting, the Occurrence Report can also be submitted to the following contact of the CAD by fax and/or email:

Fax: (852) 2362 4250
e-mail: fsad-mor@cad.gov.hk

The Occurrence Report Form (DCA 201) / Runway Incursion Reporting (DCA 235) / AIRPROX Report Form (DCA 232) is available for download from the CAD website (http://www.cad.gov.hk). When an Occurrence Report Form is not available, the relevant information may be submitted in letter form. Should additional information be required, the CAD may send a standard Occurrence Report Form to the person initiating the report for completion.

For those occurrences involving particularly dangerous or potentially dangerous circumstances requiring the immediate passing of information to the CAD, written confirmation of the available details of the occurrence should be submitted on as quickly as possible – preferably by e-mail or fax.

Contents

General Policy of the Scheme

CONFIDENTIALITY OF REPORTS

The Director-General will not disclose the name of the person submitting the report or of a person to whom it relates unless required to do so by law or unless, in either case, the person concerned authorises disclosure. Should any flight safety follow up action arising from a report be necessary, the Director-General will take all reasonable steps to avoid disclosing the identity of the reporter or of those individuals involved in the reportable occurrence.

PROSECUTION

The Director-General gives an assurance that his primary concern is to secure free and uninhibited reporting and that it will not be his policy to institute proceedings in respect of unpremeditated or inadvertent breaches of the law which come to his attention only because they have been reported under the Scheme, except in cases involving dereliction of duty amounting to gross negligence or recklessness.

ACTION IN RESPECT OF LICENCES

The Director-General has a duty to vary, revoke or suspend a licence as appropriate if he ceases to be satisfied that the holder of the licence is competent, medically fit and a fit person to exercise the privileges of the licence. If an occurrence report suggests that the licence holder does not satisfy these requirements, he will take appropriate licensing action. For example, if the report indicates that the licence holder requires further training, the Director-General may suspend his licence until he has undergone such training. If a report should indicate that the licence holder may not be a fit person to exercise the privileges of his licence, the fact that he has reported the occurrence will be taken into account in determining his fitness and will weigh heavily in his favour. Although the Director-General recognises that, in practice, licensing action may be regarded as having a punitive effect, there can be no question of action being taken by the Director-General on a licence as a punitive measure. The purpose of licence action is solely to ensure safety and not to penalise the licence holder. In all such cases, when considering what action to take, the Director-General will take into account all relevant information about the circumstances of the occurrence and about the licence holder which is available to him.

POSSIBLE ACTION BY EMPLOYERS

Where a reported occurrence indicated an unpremeditated or inadvertent lapse by an employee, the Director-General would expect the employer to act responsibly and to share his view that free and full reporting is the primary aim, and that every effort should be made to avoid action that may inhibit reporting. The Director-General will, accordingly, make it known to employers that, except to the extent that action is needed in order to ensure safety, and except in such flagrant circumstances as are described under the heading ‘Prosecution’ above, the Director-General expects them to refrain from disciplinary or punitive action which might inhibit their staff from duly reporting incidents of which they may have knowledge.

PROTECTION OF THE INTERESTS OF THE LICENCE HOLDER

It is recognised that where a licence holder is a member of an association or trade union, he is at liberty to inform that association or union of any prosecution or action by the Director-General in respect of his licence, and seek their assistance.

At any hearing conducted by the Director-General, in respect of a licence held by a member of an association or trade union, a representative of that body may accompany the licence holder and address the Director-General on his behalf.

1 THE OBJECTIVES OF THE SCHEME

1.1 The objectives of the CAD Mandatory Occurrence Reporting (MOR) Scheme are as follows:

(a) To ensure that the Director-General is advised of hazardous or potentially hazardous incidents and defects (hereafter referred to as occurrences).

(b) To enable knowledge of these occurrences to be disseminated so that other persons and organisations may learn from them.

(c) To enable an assessment to be made by those concerned (whether inside or outside the CAD) of the safety implications of each occurrence, both in itself and in relation to previous similar occurrences, so that they may take or initiate any necessary action.

1.2 The overall objective of the CAD in operating occurrence reporting is to use the reported information to improve the level of flight safety and not to attribute blame.

1.3 Nothing in this Scheme precludes the dissemination of occurrence data by the reporting organisations themselves. The Director-General encourages the sharing of such information for the purpose of improving aviation safety.

2 DIVISION OF RESPONSIBILITIES

2.1 The existence of the Occurrence Reporting Scheme to achieve the above objectives is not intended to replace or reduce the duties and responsibilities of all organisations and personnel within the air transport industry. The primary responsibility for safety rests with the management of the organisations involved (manufacturers, operators and maintenance organisations). The Director-General's responsibility is to provide the regulatory framework within which the industry must work and thereafter to monitor performance so that required standards are set and maintained. The Occurrence Reporting Scheme is an established part of the Director-General's monitoring function and is complementary to the normal day to day procedures and systems (e.g. Air Operator's Certificate (AOC), company approvals, etc); it is not intended to duplicate or supersede these.

It is thus no less incumbent upon any organisation:

(a) to record occurrences and

(b) in conjunction with the appropriate organisation (e.g. aircraft/equipment manufacturer, operating agency, maintenance/repair organisation), and when necessary the Director-General, to investigate occurrences in order to establish the cause sufficiently to devise, promulgate and implement any necessary remedial and preventative action.

2.2 In relation to all reported occurrences, including those raised by its own personnel, the Director-General will:

(a) evaluate each occurrence report received;

(b) decide which occurrences require investigation by the Director-General in order

to discharge the CAD's functions and responsibilities;

(c) make such checks as it considers necessary to ensure that operators, manufacturers, maintenance, repair and overhaul organisations, air traffic control services, and aerodrome operators are taking any necessary remedial and preventative action in relation to reported occurrences;

(d) take such steps as are open to it to persuade foreign aviation authorities and organisations to take any necessary remedial and preventative action in relation to reported occurrences;

(e) assess and analyse the information reported to it in order to detect safety problems which may not be apparent to individual reporters;

(f) where appropriate, issue specific advice or instructions to particular sections of the industry;

(g) where appropriate, take action in relation to legislation, requirements or guidance, e.g. revisions of the Air Navigation (Hong Kong) Order 1995 (AN(HK)O), Hong Kong Aviation Requirements (HKAR), amendments to Flight Manuals and Operations Manuals, introduction of mandatory modifications and inspections, amendments to maintenance schedules, terms of approval, and licences, issue of Aeronautical Information Circulars, Airworthiness Notices, etc.

3 THE ACCIDENTS INVESTIGATION DIVISION, CAD

In Hong Kong, the requirements and procedures for the reporting and investigation of accidents are the subject of separate legislation – Hong Kong Civil Aviation (Investigation of Accidents) Regulations. The investigation of accidents is the responsibility of the Accidents Investigation Division (AID), CAD. Therefore all information regarding accidents and serious incidents will be passed to the Chief Inspector of Accidents for investigation purpose.

4 THE LEGISLATION

4.1 Legislation on the CAD MOR Scheme is contained in the AN(HK)O and the Air Navigation (General) Regulations.

4.2 It should be noted that reference must always be made to the AN(HK)O if there is any doubt as to the responsibility for the reporting of an occurrence and to both the Article and the associated Air Navigation (General) Regulations, to verify the types of occurrence to be reported and the information to be supplied.

4.3 The policy concerning the release of information is contained in the 'Code on Access to Information'[1] published by the Hong Kong Special Administrative Region Government.

[1] The 'Code on Access to Information' may be obtained from the Public Enquiry Service Centre of any District Office. It may also be accessed via the internet address www.info.gov.hk/access/chincode.htm for Chinese version or 'www.info.gov.hk/access/code.htm for English version.

5 APPLICABILITY

5.1 Category of Aircraft Involved

5.1.1 The AN(HK)O limits the aircraft covered by the MOR Scheme to public transport aircraft registered in Hong Kong over 2,300 kg. In practical terms this is interpreted as also covering any such aircraft operating under the jurisdiction of a Hong Kong operator (e.g. leased aircraft). In the case of organisations providing a service or facility for aircraft operating over or in Hong Kong (e.g. Air Traffic Services, airfields, etc.), any occurrence meeting the required criteria should be reported regardless of the nationality of the aircraft involved.

5.1.2 Nevertheless, for the purpose of promoting aviation safety, the Director-General appreciates the reporting of those occurrences stated in paragraph 5.3 involving Hong Kong-registered public transport aircraft at or below 2,300 kg.

5.2 Categories of Persons Required to Report

The AN(HK)O also specifies the categories of persons (or organisations) who are required to report occurrences. These include:

(a) operators and commanders of those public transport aircraft stated in paragraph 5.1.1;
(b) those concerned with the manufacture, repair, maintenance or overhaul of such aircraft, or any part or item of equipment intended for use on such an aircraft;
(c) those who sign Certificates of Maintenance Review or Release to Service for such aircraft, or any part or item of equipment;
(d) aerodrome licensees/managers; and
(e) civil air traffic controllers operating in circumstances requiring an air traffic controller's licence.

It should be understood that the legislation defines those who *have* to report, anyone *may* in fact report should he consider it necessary.

5.3 Items to be Reported

5.3.1 Any person specified in the legislation should report any reportable occurrence of which he has positive knowledge, even though this may not be first hand, unless he has good reason to believe that appropriate details of the occurrence have already been, or will be, reported by someone else.

5.3.2 In deciding whether or not to report an occurrence, two factors must be borne in mind. The first is whether the event meets the definition as specified in the AN(HK)O.

A reportable occurrence in relation to an aircraft means:

(a) any incident relating to such an aircraft or any defect in or malfunctioning of such an aircraft or any part or equipment of such an aircraft, being an incident, malfunctioning or defect endangering, or which if not corrected would endanger, the aircraft, its occupants, or any other person; and

(b) any defect in or malfunctioning of any facility on the ground, used or intended to be used for purposes of or in connection with the operation of such an aircraft, being a defect or malfunctioning endangering, or which if not corrected would endanger, such an aircraft or its occupants.'

5.3.3 The second factor to be considered is whether or not the event comes within the terms of the reportable occurrences prescribed in the Air Navigation (General) Regulations.

5.3.4 A report should also be submitted on any occurrence which involves, for example, a defective condition or unsatisfactory behaviour or procedure which did not immediately endanger the aircraft, but which if allowed to continue uncorrected or which, if repeated in different, but likely circumstances, would create a hazard.

5.3.5 It is of great importance to the success of the Scheme that the reporters keep firmly in mind the concept of 'endangering' or 'potentially endangering', as used in the above definition, when deciding whether or not to submit a report. The primary objective of occurrence reporting is to monitor critical or potentially critical safety occurrences. It is not intended to collect and monitor the normal flow of day-to-day defects/incidents etc. The latter is an important part of the overall flight safety task but procedures and systems should already exist within an operator's organisation to carry out this function. In the main these comprise industry responsibilities monitored overall by the Director-General. In order to achieve the above objective for occurrence reporting, the criteria for a reportable occurrence need to be set above (in terms of the effect on safety) the normal day to day defects or minor incidents. Over-enthusiastic reporting of such items which fall below this criteria will involve unnecessary duplication and work to both the reporters and the CAD and will also tend, by sheer volume of data generated, to obscure the more significant safety items.

5.3.6 Appendix B develops the above philosophy for the setting of the criteria and provides more detailed guidance on the types of occurrences which are required to be reported.

6 REPORTING PROCEDURE

6.1 Submission of Reports

6.1.1 The AN(HK)O places the primary responsibility for reporting with individuals: however the interests of flight safety are best served by full participation, in the investigation and follow-up, by the organisation involved. Therefore, wherever possible the Director-General encourages the use of company reporting systems, with a responsible person(s) within the organisation being nominated to receive all reports and to establish which reports from individuals within the organisation meet the desired criteria for an occurrence report to the Director-General. Correlation of operational and technical aspects and the provision of any relevant supplementary information, e.g. the reporter's assessment and immediate action to control the problem, is an important part of such activity. With such systems the reporting level within the organisation can be, and often is, set at a lower level than the CAD requirement in order to provide a wider monitoring of the organisation's activities. However, when the employee making such a report is a person having a duty to report to the Director-General in accordance with the AN(HK)O, the company must tell him if his report has been passed on to the CAD or not. If not, and the employee is convinced that it should, he must have the right to insist that the report is passed to the CAD or to report it directly to the Director-General himself. Procedures to ensure that this right of the individual reporter is maintained

must be incorporated into the organisation's reporting procedures and be clearly stated in the relevant instructions to staff.

6.1.2 In the case of occurrences arising from or relating to defects in the aircraft, its equipment or any item of ground equipment, it is important that the appropriate manufacturer(s) be advised of the occurrence as soon as possible. The Director-General therefore expects that any organisation which raises an occurrence report (or which has been made aware of a report raised by an individual employee) will pass a copy of the report to the appropriate aircraft or equipment manufacturer(s) as soon as possible, unless it is known that the originator has already done so. In the case of incidents affecting ground installations or services, e.g. aerodrome and/or air traffic control, those responsible for those services should also be informed. The original report should list all addressees to whom it has been sent.

6.1.3 Individuals may submit an occurrence report directly to the CAD should they so wish, but in the interest of flight safety they are strongly advised also to notify their employers, preferably by a copy of the report, unless confidentiality is considered essential. When appropriate (para 6.1.2 above) the employer in turn should then advise the aircraft or equipment manufacturer(s).

6.1.4 Reports must be despatched within 96 hours of the event, unless exceptional circumstances prevent this.

Nevertheless, when the circumstances of an occurrence are judged to be particularly hazardous, the Director-General expects to be advised of the essential details by the fastest possible means (e.g. e-mail/fax/telephone). This should be followed up within 96 hours by a full written report to the CAD with appropriate copies as per para 6.1.2 and 6.1.3 above. The Director-General is dependent upon the judgement of those responsible for submitting reports to establish which occurrences are in this category (see page iii for appropriate channels of reporting).

Conversely, for occurrences involving a lesser degree of hazard, reporters must exercise their judgement in deciding whether, in order that all those concerned may be alerted in the minimum time, to submit immediately a report on the limited information available or if there is the likelihood of any additional and useful information becoming available within the statutory 96 hours, to delay the despatch of the report.

6.1.5 Should the initial report be incomplete in respect of any item of information required by the Air Navigation (General) Regulations, a further report containing this information must be made within 96 hours of the information becoming available.

Prompt advice to the Director-General on the results of investigations and the actions taken to control the situation will minimise or may render unnecessary direct CAD involvement in the investigative activity. The Director-General seeks the cooperation of all reporting organisations in this respect.

Particularly in the case of technical failures or difficulties, the availability of photographs and/or damaged parts will greatly facilitate the subsequent investigation.

6.1.6 A manufacturer or maintenance, overhaul or repair organisation of aircraft, components or equipment is not expected to report to the CAD, as a matter of routine, those occurrences involving products which have been reported to it by an operator/individual, if the operator/individual has already reported the occurrence to the CAD. The primary duty for reporting in such cases will rest with the operator/individual. Manufacturers, etc should report any such occurrence which they think is reportable as per the guidance given above if they know that the operator concerned has not done so.

6.1.7 Where a repair organisation, overhauler, etc is in doubt as to the applicability of the reporting requirements, e.g. it discovers a defect in a piece of equipment which cannot be associated with a particular aircraft, or even a type of aircraft, it should, nevertheless, make a report in order to ensure that it has complied with the law. The Director-General would, in any case, wish the organisation or an individual to report voluntarily such defects on equipment fitted to aircraft types not subject to mandatory reporting.

6.2 Confidential Reports

If any reporter considers that it is essential that his/her identity is not revealed, the report itself should be clearly annotated 'CONFIDENTIAL' and submitted direct to Flight Standards and Airworthiness Division, CAD addressed to Assistant Director-General (Flight Standards) (ADG(FS)) and marking the envelope 'Personal' - the request will be respected and the reporter will be contacted personally, either by the ADG(FS) or his deputy. The Director-General cannot, of course, guarantee confidentiality when an occurrence is reported separately by another party or where the caveat on prosecution in the 'General Policy of the Scheme' in this CAD publication applies, i.e. 'dereliction of duty amounting to gross negligence'.

Reporters submitting a 'Confidential' Report must accept that effective investigation may be inhibited. Nevertheless the Director-General would rather have a 'Confidential' Report than no report at all.

6.3 Operators Approved for Extended Range Twin Operations (ETOPS)

Operators holding approval for this type of operation should, when submitting an occurrence report on the aircraft type(s) subject to this approval, always prominently annotate all such reports 'ETOPS'.

NB: The related legislation and requirements associated with ETOPS are contained in CAD 513.

6.4 Investigation and Provision of Supplementary Information

6.4.1 To facilitate effective lines of communication when any part or equipment involved in an occurrence is being despatched to another area or organisation for investigation or repair, the item(s) should be clearly identified as the subject of an occurrence report to the CAD, by appropriate annotation of the 'tag' and all accompanying paperwork.

6.4.2 The AN(HK)O, does not require the provision of supplementary information on reportable occurrences except when specifically requested by the Director-General. However, the efficiency of the CAD follow-up work and the standard of the information service it can provide will be greatly improved if reporting organisations keep the Director-General informed of major developments in their investigations of occurrences. The Director-General seeks the co-operation of all reporting organisations in this respect.

6.5 The Report Forms (DCA 201, DCA 235, DCA 232)

To facilitate consistent reporting and subsequent storage and analysis of data, three standard report forms are available and ideally should be used. Organisations may wish to use a report form designed to meet their own requirements. In such cases the 'in house' document(s) should, as far as possible, follow the general format of the CAD model. Certainly any 'in house' document(s), use of which will require CAD approval, should seek the same information as is required to be reported on the appropriate CAD form(s).

The three CAD forms are:

Form DCA 201 (Occurrence Report), see Appendix A(2) - to be used for all types of occurrences except AIRPROX.

Form DCA 235 (Runway Incursion Reporting) see Appendix A(3) - to be used for Runway Incursion or Runway Obstruction Reporting.

Form DCA 232 (AIRPROX Report - Pilots), see Appendix A(4) - to be used for AIRPROX reported by pilots.

These report forms can be obtained from Flight Standards and Airworthiness Division or Air Traffic Management Division. Both Forms are also available for download from the CAD website.

6.6 Completion of the Forms

Sample occurrence report forms and advice on their completion are contained in Appendix A(1).

6.7 Retention of Data from a Flight Data Recorder (FDR)

6.7.1 The Director-General expects to use flight recorder data only when this is necessary for the proper investigation of the more significant occurrences. It is not intended to use such data to check on information contained in a written report, but to supplement and extend the written information. Examples of the types of occurrence for which flight data records would be most useful are: significant excursion from the intended flight parameters; significant loss of control or control difficulties; unexpected loss of performance; a genuine warning from the Ground Proximity Warning System (GPWS). However, the more comprehensive recorders fitted to some aircraft are capable of providing valuable data on a wider range of occurrences and the Director-General would expect to make judicious use of such information in relation to suitable occurrences.

6.7.2 For this purpose the AN(HK)O requires that operators retain the data from an FDR which is relevant to a reportable occurrence for a period of 14 days from the date of the occurrence being reported to the Director-General, or a longer period if the Director-General so directs.

6.7.3 The Director-General is dependent upon the judgement of those responsible for submitting reports to establish which occurrences require the retention of FDR data. It is equally incumbent upon the Director-General to advise the reporting organisation, as quickly as possible, when it requires such data.

7 REPORTING OF WINDSHEAR & TURBULENCE AND BIRDSTRIKE OCCURRENCES

Because of both the specialist and detailed nature of the information required on birdstrike and windshear & turbulence occurrences, specialised forms are provided for detailed information capturing. All such reports, in addition to the occurrence report required under the terms of the AN(HK)O, should be submitted on the specialised Report Form designed for the purpose, and transmitted in accordance with the instructions on the form.

The forms are available from the following offices:

Bird Strikes - Bird Control Unit
Airfield Business Unit
Airport Authority
Hong Kong International Airport
Lantau
Hong Kong
(or through Fax: 2183 6121)

Windshear & Turbulence - Airport Meteorological Office
Hong Kong Observatory
134A Nathan Road
Kowloon
Hong Kong
(or through Fax : 2910 0080)

Completed report forms are to be submitted to the appropriate offices shown above.

8 REPORTING BY AIR TRAFFIC CONTROLLERS

Reports should be submitted in accordance with the procedures contained in the CAD Manual of Air Traffic Control Part 2 Chapter 8 using Report Form DCA 201.

9 REPORTING OF RUNWAY INCURSION OR RUNWAY OBSTRUCTION

Pilots and air traffic controllers should report any occurrence involving a runway incursion or obstruction on the runway by submitting DCA 235 “Runway Incursion Reporting”. Submission of DCA 201 “Occurrence Report” for these particular events is no longer required.

10 REPORTING OF GROUND INCIDENTS BY AIRPORT AUTHORITY

Reports should be submitted using the Special Occurrence Report Form and in accordance with the procedures contained in the AAHK Airport Operations Manual - Airfield Operations Part J.

11 REPORTING OF GROUND COMMUNICATIONS OR NAVIGATION EQUIPMENT FAULTS BY AIRCRAFT COMMANDERS

All faults which meet the criteria for a reportable occurrence must be reported by the aircraft commander using the standard Occurrence Report or approved company form, and submitted through the normal Occurrence Reporting channels.

12 PROCESSING OF OCCURRENCE REPORTS

12.1 The role of CAD Flight Standards and Airworthiness Division (FSAD)

12.1.1 *The Flight Standards and Airworthiness Division (FSAD)* is the central point for receipt, dissemination, storage and analysis of occurrence report data. Its main responsibilities may be summarised as:

The evaluation and analysis of safety information from occurrence reports (including accidents) by:

- evaluation to identify those occurrences considered to require CAD involvement in follow-up and to direct these to the appropriate specialist division(s) within the CAD for action. Such reports are classified as 'Open'. All reports not requiring CAD follow-up are recorded as 'Closed' by the responsible division.

- Coordinating and monitoring the progress until satisfactory closure of 'Open' occurrences.

- dissemination of occurrence information to those who need to know .

- continuously monitoring all incoming data for significant hazards or potential hazards using previously stored data when appropriate. Alerting corresponding CAD specialist divisions and others as necessary.

- regular monitoring of stored data to identify hazards or potential hazards.

12.1.2 However, if alternative reporting procedures have been established by the specialist division(s) of the CAD other than FSAD (e.g. the reporting procedures for the type of occurrences as listed in paragraphs 7, 8, 9 in *this* document), such occurrence reports will be received and handled directly by the responsible division(s).

12.1.3 *Occurrences Closed on Receipt by CAD.* In some occasions, occurrences reported to the CAD while meeting the criteria for a reportable occurrence, have been adequately dealt with by the reporting organisation. There is thus no justification for further investigation by the CAD although details of the occurrence and action taken do provide valuable information for dissemination and storage purposes. Reports judged to be in this category are 'Closed on Receipt' by the appropriate division, the principal justification for closure being that it is evident from the report that existing requirements, procedures, documentation, etc. coupled with the reporter's action have adequately controlled the identified hazard. When necessary the responsible division will liaise with the reporter in making this decision.

The ability of the CAD to close an occurrence on receipt and thus avoid the need for further CAD investigation is therefore very much dependent upon the quality of the information provided in the report and specifically information on the action taken by the reporting organisation to control the situation.

12.1.4 *'Non-Reportable' Occurrences.* When reporting to the Director-General is through a company system, any report which does not meet the desired criteria for a reportable occurrence should

normally be filtered out by the company. However, when any report is received by CAD which is judged to be in this category it is classed as ‘non-reportable’ and is not included in the main occurrence report records. It should be stressed, however, that when a report is considered in isolation to be ‘non-reportable’ but nevertheless provides supplementary supporting data for another reportable occurrence, it will be treated as the latter.

Thus, classification by the CAD of a report as ‘non-reportable’ does not mean that it is considered insignificant or unimportant. What it does mean is that the routine monitoring and control procedures are considered adequate to cater for any required follow-up, investigation and initiation of action for the particular occurrence. It is important that this point is made known to, and appreciated by, all individuals with responsibility for initiating occurrence reports.

Appendix A(1)

Advice on the Completion of the CAD Occurrence Report Form – DCA 201 and AIRPROX Report Form - DCA 232

1 GENERAL

1.1 Reporters must provide the information required by the Air Navigation (General) Regulations and/or Hong Kong Aeronautical Information Publications (HKAIP) as amended. This means that wherever possible they should complete all sections of the Form where the information requested is *relevant* to a specific occurrence; *relevance* is the important aspect and where any of the information requested is clearly not relevant it may be omitted, e.g. weather details when weather is not a factor.

1.2 The individual 'box' headings for all items of data are mostly self-explanatory, and the Form comprises a combination of blank boxes for entry of data and boxes listing a number of alternatives: the reporter should annotate the appropriate item.

1.3 The use of DCA232 and the corresponding procedure for reporting AIRPROX occurrences can be found in ENR 1.14 of the HKAIP.

2 ADDITIONAL ADVICE FOR DCA 201 USERS

2.1 Space for 'Date received' and 'FSAD Ref. No.' at the top of the Form are for CAD use only. Reporter should enter his/her Occurrence No. in the 'Reporter's Occurrence No." box.

2.2 The Form is arranged such that under the heading of **'Type of Occurrence'**, there are three categories, which are 'Air Traffic Related, Aerodrome & Facilities Related (except for runway incursion - use DCA 235 instead), and Flight operations & Airworthiness Related'.

2.3 Where occurrence reports are channelled to the CAD via an organisation, any relevant information which is not readily available to the person preparing the initial report should, wherever possible, be added by the person submitting the report on behalf of the organisation. Alternatively, where this is not possible within the required time scale, the outstanding information should be submitted as a supplementary report.

2.4 Evaluation and processing of reports is greatly simplified if the reports are typewritten, but it is appreciated that this may not always be possible; in this case the report should be completed in black ink.

2.5 **Extended Range Twin Operations (ETOPS) or Reduced Vertical Separation Minima (RVSM) Operations**

Operators holding approval for either type of operation should, when submitting any occurrence report on the aircraft type(s) subject to this approval, always complete the appropriate 'box(es)' provided. Those operators not using DCA 201 should prominently annotate all reports 'ETOPS' or 'RVSM' as required.

NB: The related legislation and requirements associated with ETOPS are contained in CAD 513.

2.6 The following are brief notes against each block:

2.6.1 **Aircraft Type, Series and Operator** - to be completed for all occurrences involving an aircraft.
Provides basic identification data.

2.6.2 **Flight and Weather Details** - relates to in-flight occurrences only.
Provides flight data in support of the narrative.

The **Flight Phases** listed on the report are defined as follows:

Parked On ramp with flight crew on board

Taxying (a) From commencement of movement (including pushback) to start of take-off run

(b) From completion of landing run to terminal gate or point of stopping engines, whichever occurs later

Take-off Start of take-off run to lift-off

Init Climb Lift-off to a height of 1500 ft or aircraft 'clean-up' whichever occurs later

Climb End of initial climb to top of climb

Cruise Top of climb to top of descent including en-route climb or descent

Descent Top of descent to a height of 1500 ft

Holding Flying to a set procedure at a point which intentionally delays the aircraft, usually according to a set procedure at a 'fix'

Approach A height of 1500 ft to threshold

Landing Threshold to end of landing run

Circuit Flying to a set pattern in the vicinity of an airfield with intention of landing

Aerobatics Deliberate aerobatic manoeuvres, including spinning

Hover Airborne and stationary

2.6.3 The **Nature of Flight** descriptions listed on the report are defined as follows:

Sched Pax One of a series of flights, in accordance with the provisions of an air services agreement, for the carriage of passengers and their baggage between the same two places and which together amount to a systematic service

Non-Sched Pax	Passenger flight which is not classified as scheduled passenger flight
Sched Freight	One of a series of flights, in accordance with the provisions of an air services agreement for the carriage of cargo between the same two places and which together amount to a systematic service
Non-Sched Freight	Freight flight which is not classified as scheduled freight flight
Survey	Aerial photographic or mapping survey
Pleasure	Commercial pleasure flying, eg sightseeing
Check/ Calibration	Check or calibration of ground-based navigation aids
Business	Carriage of company staff in aircraft owned or hired by a company
Club/Group	Flying, other than training, by members in a club or group aircraft
Private	Other than club/group flying or training
Positioning	Positioning without revenue load to/from point of departure/arrival of revenue flight
Ferry	Ferry for technical reasons without revenue load, e.g. 3-engine ferry to maintenance base
Test	Check of serviceability, issue or renewal of C of A, experimental or development flying
Training	Training course or examination for any standard of licence or rating, type training, continuation training

2.7 Description of Occurrence – relates to all occurrences

2.7.1 This should be a clear and concise description of the occurrence, preferably starting with a brief title indicating the type of occurrence. The description should contain details of what happened or what was found, including its effect on aircraft or any person(s) affected; what immediate action was taken to contain the situation; any additional information, comments or recommendations which it is considered might assist subsequent assessment of the report and/or investigation.

2.7.2 Wherever possible the description should be supported by the results of subsequent investigation and details of any action taken by the reporter's organisation to avoid a recurrence.

2.8 Engine/Component Details – relates to both in-flight and ground occurrences. Provides maintenance/engineering data in support of the description of the occurrence.

2.8.1 In the case of reports submitted from a component manufacturer or overhaul/repair agency, the information in this block will provide the primary identification data for the occurrence. Nevertheless, if any of the information contained in paragraph 2.6 is available and is relevant it should also be provided.

2.8.2 Aircraft or component times should be quoted in the units most relevant to the occurrence or to the component function, e.g. flying hours/cycles/landings, or a combination of each. Provision is made for total times and times since overhaul, repair or inspection.

2.8.3 Any published information or control procedures should be provided for the identification of the existence of any such information or procedures (e.g. mandatory inspections, Airworthiness Directives, crew drills, etc) issued for the purposes of controlling or avoiding such or similar occurrences. When such information or procedures exist, the appropriate reference numbers and the compliance status of the aircraft, equipment, facility or organisation should be quoted as they are important both in terms of assessing the occurrence and disseminating the details to others.

2.8.4 Annotation of the 'Manufacturer Advised' box is an important aspect of any occurrence report relating to a specific aircraft type or any item of aircraft equipment. Wherever possible such information should be provided as this can significantly reduce any requirements for follow-up activity.

2.9 Non-Technical Details – relevant to all occurrences

2.9.1 Provision is made on the form for important non-technical information such as identification of the reporter and whether the report is mandatory or voluntary.

2.9.2 If the reporter wishes to be contacted privately, such intention as well as the relevant address and telephone number should be mentioned in the report.

香港特別行政區政府
民航處
Civil Aviation Department
The Government of the Hong Kong Special Administrative Region

Send to: Appendix A(2)

Flight Standards and Airworthiness Division, Civil Aviation Department
Mail: 10/F., Commercial Building, Airport Freight Forwarding Centre
2 Chun Wan Road, Lantau, Hong Kong
Fax: +(852) 2362 4250
Email: fsad-mor@cad.gov.hk

OCCURRENCE REPORT (Mandatory / Voluntary)*

******delete as appropriate*

Complete all sections where information is relevant.
For multi-choice boxes, indicate which entry is appropriate

Reporter's Occurrence No.	FSAD Ref No.	Date received

Aircraft Type and Series 1	Registration 2	Operator 3	Date of Occurrence 4

Flight Phase 24		Nature of Flight 25	
PARKED		SCHED. PAX	
TAXYING		NON-SCHED. PAX	
TAKE-OFF		SCHED. FREIGHT	
INIT. CLIMB		NON-SCHED. FREIGHT	
CLIMB		SURVEY	
CRUISE		PLEASURE	
DESCENT		CHECK/CALIBRATION	
HOLDING		BUSINESS	
APPROACH		CLUB/GROUP	
LANDING		PRIVATE	
CIRCUIT		POSITIONING	
AEROBATICS		FERRY	
HOVER		TEST	
		TRAINING	

FLIGHT AND WEATHER DETAILS			Runway	Precipitation 18		Icing 19		Turbulence 20	
Flight No. 5	DAY NIGHT	Wind 12	Used 16	RAIN		LIGHT		LIGHT	
From 6	9	IAS kts 13	State 17	SNOW		MOD		MOD	
				SLEET		HEAVY		SEVERE	
				HAIL				EXTREME	
To 7	Time UTC 10	Height ft 14	DRY	LIGHT					
			WET	MOD					
			ICE	HEAVY					
			SNOW	Cloud Type Height/ft Amount/8ths		ETOPS		RVSM	
			SLUSH						
Geog. Position 8	Visibility 11	O.A.T. ℃ 15		21		22 Yes/No		23 Yes/No	

TYPE OF OCCURRENCE

AIR TRAFFIC RELATED 26		AERODROME & FACILITIES RELATED 27		FLIGHT OPERATIONS & AIRWORTHINESS RELATED 28	
ATC INCIDENT INVOLVING SAFETY		ACFT/VEHICLES/GRND EQUIP COLLISION *See note below		FLIGHT OPERATIONS PROCEDURES	
ATC PROCEDURES		AERODROME LIGHTING MARKING		ACFT ENGINEERING/MAINT./AIRWORTHINESS	
SEPARATION		OBSTRUCTIONS *See note below		OTHER IN-FLIGHT EMERCY.	
AIR SPACE		APRON BLAST			
R/T / COMMUNICATION		AERODROME FACILITIES			
ATC EQUIPMENT		BIRDSTRIKE		OTHER (PLS INDICATE) 29	
MET.SERVICES		NAV. AIDS			
INFORMATION		AERODROME SECURITY			
FOREIGN OBJECT		OTHER AERODROME INCIDENT *See note below			
UNDERSHOOT / OVERSHOOT		Note: For events on runway, including runway incursion, use DCA 235.			

ENGINE/COMPONENT DETAILS
30

Any procedures, manuals, pubs (e.g. AIC, AD, SD etc) directly relevant to occurrence and (when appropriate) compliance state of aircraft, equipment or documentation

ENGINE TYPE/SERIES	COMPONENT/PART	MANUFACTURER	PART NR	SERIAL NR	MANUAL REF	COMPONENT OH/REPAIR ORGANISATION

UTILISATION – AIRCRAFT 31		UTILISATION – ENGINE/COMPONENT 32			
	TOTAL		TOTAL	SINCE OH/REPAIR	SINCE INSPECTION
Hours		Hours			
Cycles		Cycles			
Landings		Landings			

REPORT 33 ORIGINAL/SUPPL	MANUFACTURER ADVISED 36 YES/NO	NAME 39	SIGNATURE 42
INVESTIGATION 34 NIL/OPEN/CLOSE	FURTHER ACTION REQUIRED BY 37	POSITION 40	DATE 43
FLIGHT DATA RECORD HELD 35 YES/NO	TEL/FAX 38	NAME OF EMPLOYER 41	

DESCRIPTION OF OCCURRENCE *(Including its effects and any other relevant information)*

(Use supplemental sheet if space is not sufficient.)

POST EVENT ACTION TAKEN RELEVANT TO THE OCCURRENCE *(Including operation restriction, maintenance, investigation result, etc. as appropriate)*

(Use supplemental sheet if space is not sufficient.)

ADDRESS & TEL. NO. *(If reporter's contact is different from that of his/her place of employment)*

CAD use only

RUNWAY INCURSION REPORTING

(Initial report)

A	Occurrence DTG (UTC) _____ day ☐ night ☐
B	Particulars of Person submitting the report 1. Name 2. Post Title _____ 3. Phone _____ 4. Fax _____ 5. Organisation _____
C	ICAO aerodrome designator **VHHH**
D	Runway surface condition (braking action) 1. Good ☐ 2. Fair ☐ 3. Poor ☐
E	Weather conditions 1. Wind _____ 2. Visibility _____ m / km in drizzle* OR _____ m / km in light / heavy rain* (*delete as appropriate) 3. RVR _____ m 4. Temperature _____ º C 5. Additional info _____
F	Closest proximity 1. _____ feet vertical 2. _____ feet/metre* horizontal (*delete as appropriate)
G	Description of incident and relevant circumstances with geometric diagrams (add pages if necessary)
H	Initial assessment of severity A: dangerous ☐ B: severe ☐ C: moderate ☐ D: light ☐

I Communication difficulties

Yes ☐ No ☐

If Yes
- i Readback / hearback --- ☐
- ii Blocked communication --- ☐
- iii Callsign confusion --- ☐
- iv a/c on wrong frequency --- ☐
- v No radio contact --- ☐
- vi Non standard phraseologies --- ☐

J Any ATC memory lapse

Yes ☐ No ☐

If Yes
- i about an aircraft/vehicle/person cleared onto or to cross runway -- ☐
- ii about an aircraft on approach -- ☐
- iii about a runway closure -- ☐

K Parties involved

Aircraft ☐
Vehicle ☐
Person ☐
(indicate all parties involved)

a/c 1		a/c 2		Vehicle 1		Person	
operator		operator		operator		organisation	
a/c type		a/c type		RWY inspection	☐		
c/s		c/s		Bird control	☐	Without comm	☐
Scheduled	☐	Scheduled	☐	Tow truck	☐	With comm	☐
Non-sch/GA	☐	Non-sch/GA	☐	Fire vehicle	☐		
IFR	☐	IFR	☐	Maintenance / Servicing	☐		
VFR	☐	VFR	☐	Sweeping / friction testing	☐		

L Evasive Actions taken?

	a/c 1	a/c 2	Vehicle 1	Person
	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐
	If yes	If yes	If yes	If yes
CNL take-off clearance	☐	☐	Abrupt stop ☐	Run away ☐
Rejected take-off	☐ Distance rolled m	☐ Distance rolled m	swerved ☐	Escorted off ☐
Rotate early	☐	☐	others ☐	
Delayed rotation	☐	☐		
Abrupt stop	☐	☐		
Swerved	☐	☐		
Missed approach	☐ Distance to threshold m	☐ Distance to threshold m		
others	☐	☐		

M Available reaction time

_____ seconds

N Effectiveness of evasive or correction action

Yes ☐ No ☐

O Voice communication reviewed

Yes ☐ No ☐

P Signature of person (as in B) submitting report

_____

Q Date / Time / Place of completion of this form

Date _____ Time _____ Place _____

R On completion of the above, please submit these 2 pages to Assistant Director-General of Civil Aviation (Flight Standards) via:

Email [fsad-mor@cad.gov.hk]
or Fax [+852 2362 4250]

CIVIL AVIATION DEPARTMENT

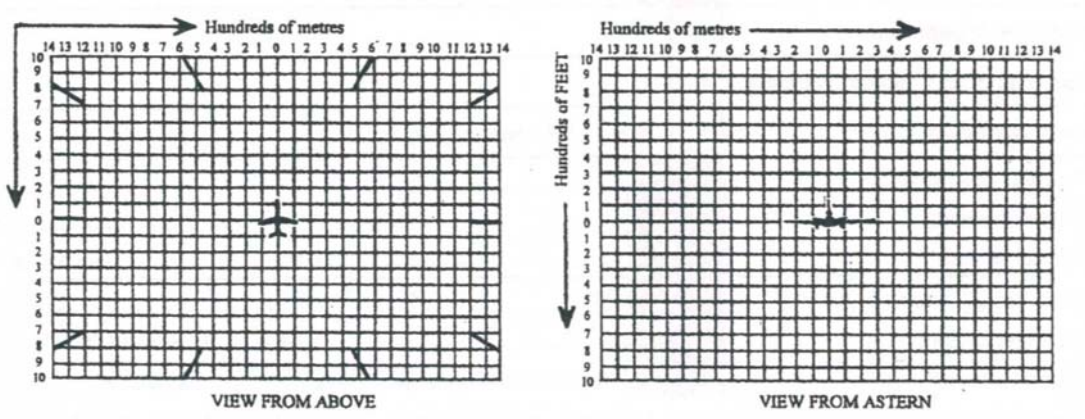
Send to: **Assistant Director General (Flight Standards)**
Flight Standards and Airworthiness Division
Civil Aviation Department
10/F Commercial Building,
Airport Freight Forwarding Centre,
2 Chun Wan Road, Lantau, Hong Kong

	A	*AIRPROX REPORT – PILOTS*
1 Name of pilot in command 2 Flight deck crew complement	B	1 2
Operator - include address and telephone no.	C	
Aircraft registration and type	D	
Colour scheme and external lighting in use - strobes etc	E	
1 Radio call sign 2 In communication with 3 Type of ATC service 4 RT frequency 5 SSR transponder	F	1 2 3 4 5 *Fitted/Not fitted. Code : Mode C - *On / Off / Not fitted
Aerodrome of departure	G	
Aerodrome of first intended landing	H	
Type of flight plan	I	*IFR / VFR / None
1 Position of AIRPROX 2 Aircraft heading 3 True airspeed 4 Vertical speed on climb/descent	J	1 2 *True/Magnetic 3 ..... Knots 4 ..... Feet / min
1 Flight level, altitude or height 2 Altimeter setting 3 Aircraft attitude 4 Phase of flight	K	1 *FL ...../..... ft 2 ..... HPA (* Standard / QNH) 3 *Level/Climbing/Descending/Turning (*Right/Left) 4 *Take-off Cruise En route descent Missed approach Initial climb Aerobatics Holding Circuit En route climb Gen Handling Final descent Landing
Flight weather conditions at time of AIRPROX	L	1 *IMC/VMC 2 Distance ..... ft * Above/Below *Cloud/Fog/Haze 3 Distance ..... *km/NM horizontally from cloud 4 In *Rain/Snow/Sleet/Fog/Haze/Cloud/Between layers 5 Flying *into/out of sun 6 Flight visibility ..... *km/NM in *Day/Night/Twilight
DATE and TIME of AIRPROX	M	Date : TIME : State whether *UTC or *LOCAL TIME
Description of other aircraft if seen: 1 Type, high/low wing, number of engines 2 Radio callsign, registration 3 Markings, colour, lighting 4 Aircraft attitude - other available details	N	1 2 3 4
1 First sighting distance/radar contact 2 Horizontal and vertical distance from AIRPROX traffic	O	1 2

3 Form of avoiding action taken; if none, state reason 4 Assessment of risk 5 Other relevant factors, ie workload, emergencies, vision from cockpit, etc 6 Airborne Collision Avoidance System (eg TCAS) 7 Reaction time	O	3 4 * High / medium / low 5 6 *Fitted / not fitted. TA indicated? ____ RA indicated? ____ RA followed? *None / minimal / critical / sufficient / adequate 7
Have you reported the AIRPROX?	P	*NO / YES by RADIO To whom? ____ FREQ? *NO / YES by PHONE To whom?
Classification of flight	Q	1 PUBLIC TRANSPORT *(a) Scheduled Passenger *(b) Non-scheduled Passenger *(c) Scheduled Freight *(d) Non-scheduled Freight 2 *COMMERCIAL *EXECUTIVE *CLUB/GROUP *PRIVATE *TRAINING *GLIDING

DIAGRAMS OF AIRPROX

Mark passage of aircraft relative to you, in plan on the left and in elevation on the right, assuming **YOU** are at the centre of each diagram.



DESCRIPTION OF AIRPROX

Include any details you think relevant or which will help Civil Aviation Department to understand what happened. *(Attach separate paper if not enough space here.)*

Continue over page if necessary

Date ____ Time ____ Signature of Pilot ____.
of completion of form

Contact Tel. No.
and Address ____.

**Delete and/or insert words or figures as appropriate*

Appendix B

Occurrences Required to be Reported

1 INTRODUCTION

The objectives of occurrence reporting and the formal definition of a reportable occurrence are contained in the legislation and further amplified in paragraphs 1 and 5 of this document. Reporters should ensure that the content of their reports meets the criteria and guidance laid out below. Particular emphasis should be paid to ensuring that day to day operational anomalies, technical defects and routine reliability issues are dealt with via the normal organisational systems and procedures.

The Occurrence Reporting Scheme is an essential part of the CAD's monitoring function; it is complementary to the normal day to day procedures and 'control' systems (e.g. AOC, company approvals, etc.) and is not intended to duplicate or supersede any of them. The Occurrence Reporting Scheme aims to identify those occurrences where the routine control procedures have failed. To achieve this objective, the criteria for a reportable occurrence need to be set (in terms of the effects on safety) above the normal day to day defects and minor incidents.

Those occurrences which must always be reported (e.g. fires, uncontained engine failures, critically low fuel states, close proximity between aircraft, etc.) can easily be listed but it is impossible to define precisely every significant hazard which requires reporting. What is judged to be reportable on one class of aircraft may not be so on another and the absence or presence of a single factor, human or technical, can transform a minor occurrence into a significant hazard or an accident. Judgement by the reporter of the degree of hazard or potential hazard involved is therefore essential in many cases. If to the judgment of the reporter, the malfunctioning or defect has endangered or may endanger the safe operation of the aircraft, the reporter shall furnish a report.

Within the above constraints, this Appendix lists the types of occurrence which, in the view of the Director-General, are likely to fall within the definition of a reportable occurrence in which case they must therefore be reported. Whilst the Appendix lists the majority of occurrences which shall normally be reported it cannot be completely comprehensive and any other occurrences judged, by those involved, to meet the criteria shall be reported.

Guidance criteria in this form, and with the above qualifications, can on occasions be used to justify a report not being made when in fact it should have been. Practical and effective working of the Occurrence Reporting Scheme therefore requires a constructive approach and a will to make the system work on the part of all reporters and others involved.

2 AIRCRAFT FLIGHT OPERATIONS

The following should be reported by Flight Crew:

2.1 Control of the Aircraft

(a) Avoidance manoeuvres:

(i) risk of collision with another aircraft, terrain or other object or an unsafe situation when avoidance action would have been appropriate;

(ii) an avoidance manoeuvre required to avoid a collision with another aircraft, terrain or other object;

(iii) an avoidance manoeuvre to avoid other unsafe situation.

(b) Rejected take-off resulting from or producing a hazardous or potentially hazardous situation (e.g. at speeds close to or above V1).

(c) Go around producing a hazardous or potentially hazardous situation.

(d) Unintentional significant deviation from intended track or altitude (more than 300 feet), caused by a procedural, systems or equipment defect or human factor.

(e) Inability to achieve predicted performance during take-off or initial climb.

(f) Descent below decision height/altitude or minimum descent height/altitude in instrument landing conditions.

(g) Heavy landing – a landing deemed to require a 'heavy landing check'.

(h) Unintentional contact with the ground, including touching down before the runway threshold.

(i) Over-running the ends or sides of the defined runway or landing strip.

(j) Significant inadvertent reduction in airspeed.

(k) Loss of control (including partial or temporary) regardless of cause.

(l) Loss of position awareness relative to actual position or to other aircraft.

(m) Breakdown in communication between flight crew "CRM" (crew resource management) or between flight crew and other parties (cabin crew, ATC [air traffic control], engineering).

(n) Abnormal vibration.

(o) Approach to, landing on, lining up on or taking off from a wrong runway (see also "runway incursion" at paragraph 4.3(d)) or airfield or not from a runway.

(p) Occurrence of stall warning or a 'stick push' operation, other than for training or test purposes.

(q) Operation of any primary warning system associated with manoeuvring of the aircraft e.g. configuration warning, stall warning (stick shake), stall protection (stick push), over speed warning etc. unless:

(i) the crew conclusively established that the indication was false at the time it occurred, or

(ii) the indication is confirmed as false immediately after landing.

Provided that in either case, the false warning did not result in difficulty or hazard arising from the crew response to the warning.

(r) Ground Proximity Warning System (GPWS) ‘warning’ when:

(i) the aircraft comes into closer proximity to the ground than had been planned or anticipated; or

(ii) the warning is experienced in Instrument Meteorological Conditions (IMC) or at night and is established as having been triggered by a high rate of descent (Mode 1); or

(iii) the warning results from failure to select landing gear or land flap by the appropriate point on the approach (Mode 4); or

(iv) any difficulty or hazard arises or might have arisen as a result of crew response to the ‘warning’ e.g. possible reduced separation from other traffic. This could include warning of any Mode or Type i.e. genuine, nuisance or false.

(s) GPWS ‘alert’ when:

Any difficulty or hazard arises or might have arisen as a result of crew response to the ‘alert’.

(t) Air Collision Advisory System (ACAS) Resolution Advisory except for an “unnecessary alert”, e.g. when triggered by a high rate of climb/descent but standard separation not compromised.

(u) Reversion to manual control of powered primary controls, other than for training or test purposes.

(v) Loss or malfunctioning of any rotorcraft AUTO stabiliser mode.

(w) Inadvertent incorrect operation of any controls which resulted in, or could have resulted in, a significant hazard.

(x) A hazard or potential hazard which arises as a consequence of any deliberate simulation of failure conditions for training, system checks or test purposes.

(y) In flight fuel quantity critically low or exhausted.

(z) Significant fuel imbalance.

(aa) Incorrect setting of a Secondary Surveillance Radar (SSR) code.

(bb) Incorrect setting of an altimeter sub-scale.

(cc) Significant incorrect programming of navigation equipment.

(dd) Flight at a level, or on a route, different from that allocated.

(ee) Incorrect receipt or interpretation of Radio-telephony (RTF) messages which resulted in or could have resulted in a significant hazard.

(ff) A bomb threat.

(gg) A hijack.

(hh) Unsatisfactory ground de-icing / anti-icing.

(ii) Repetitive arisings at an excessive frequency of a specific type of occurrence which in isolation would not be considered 'Reportable', e.g. a high frequency of:

(i) Minor loading errors at a particular airfield; or

(ii) GPWS nuisance warnings at a particular airfield.

NOTE: In such cases it is expected that the reporter will submit a single occurrence report together with the supporting evidence of high frequency and/or rate when it is considered that such a situation has been reached. Further reports should be submitted if the situation remains unchanged.

2.2 Emergencies

(a) Fire, explosion, smoke or toxic or noxious fumes, even though fires were extinguished.

(b) The use in flight or on the ground of any emergency equipment or prescribed emergency procedures in order to deal with a situation.

(c) The use of any non-standard procedure adopted by the flight crew to deal with an emergency.

(d) An event leading to an emergency evacuation.

(e) Depressurisation.

(f) The declaration of an emergency – ('Mayday' or 'Pan').

(g) An emergency, forced or precautionary landing.

(h) Inadequacy or failure of any emergency system, equipment or procedures to perform satisfactorily, including when being used for maintenance, training or test purposes.

(i) Event requiring any use of emergency oxygen by any crew member.

2.3 Crew Incapacitation

(a) Incapacitation of any member of the flight deck operating crew, including that which occurs prior to departure if it is considered that it could have resulted in incapacitation after take-off.

(b) Incapacitation of any member of the cabin crew which renders him/her unable to perform essential emergency duties.

NOTE: 'Incapacitation' includes fatigue resulting from flying and associated duties, if confirmed by a qualified medical practitioner.

2.4 Injury

Any significant injury to any person which directly results from the operation of the aircraft or its equipment but which is not considered to constitute a Reportable Accident.

2.5 Other Incidents

(a) A lightning strike which resulted in significant damage to the aircraft or loss or malfunction of any essential service.

(b) A hail strike which resulted in significant damage to the aircraft or loss or malfunction of any essential service.

(c) Icing encounter resulting in handling difficulties, damage to the aircraft or loss or malfunction of any essential service.

(d) Wake vortex encounter – an encounter resulting in significant handling difficulties.

(e) Windshear encounter – an encounter resulting in significant handling difficulties.

(f) A bird strike which resulted in significant damage to the aircraft or loss or malfunction of any essential service.

(g) Turbulence encounter – an encounter resulting in injury to occupants or deemed to require a 'turbulence check' of the aircraft.

3 AIRCRAFT TECHNICAL

The following should be reported by Flight Crew or Maintenance Staff.

3.1 Structure

(a) Any damage or deterioration (i.e. fractures, cracks, corrosion, delamination, disbonding etc) resulting from any cause (e.g. flutter, loss of stiffness or structural failure) to:

(i) primary structure or a principal structural element (as defined in the Manufacturer Repair Manual) where such damage or deterioration exceeds allowable limits specified in the Repair Manual and requires a repair or complete or partial replacement of the element; or

(ii) secondary structure which consequently has or may have endangered the aircraft.

(b) Any damage or deterioration (as above) found as a result of compliance

with an Airworthiness Directive or other mandatory instruction issued by a Regulatory Authority, when:

(i) it is detected for the first time by each operator or organisation implementing compliance; or

(ii) on any subsequent compliance where it exceeds the permissible limits quoted in the instruction and/or published repair/rectification procedures are not available. For example, a report is required if the condition found necessitates a request to the Design Authority or Regulatory Authority for an extension of limits and /or special repair/rectification schemes or procedures.

(c) Separation from the aircraft in flight of any part of the aircraft.

3.2 Powerplant

(a) Flameout, shutdown or significant malfunction of any engine when:

(i) it occurs at a critical phase or time (e.g. V1, or during approach/landing); or

(ii) exceptional circumstances exist or unforeseen consequences arise [e.g. uncontained failure, fire, aircraft handling problems, external damage to the engine or aircraft structure, Foreign Object Damage (FOD), etc]; or

(iii) standard operating procedures, drills etc could not be satisfactorily accomplished; or

(iv) inability, by use of normal procedures, to shutdown an engine or to control power, thrust or rpm; or

(v) significant engine overspeed.

(b) An engine exhaust system that causes damage during flight to the engine, adjacent structure, equipment, or components.

(c) Aircraft types with one or two engines:

Flameout, shutdown or significant malfunction of any engine.

(d) Aircraft types with three or more engines:

Flameout, shutdown of significant malfunction of more than one engine.

(e) Failure or malfunction of any part of an engine or powerplant resulting in any one or more of the following:

(i) non-containment of components/debris; or

(ii) uncontrolled internal or external fire, or hot gas breakout; or

(iii) thrust in a direction different from that demanded by the pilot; or

(iv) thrust-reversing system failing to operate or operating

inadvertently; or

(v) failure of the engine mount structure; or

(vi) partial or complete loss of a major part of the powerplant; or

(vii) dense visible fumes or concentrations of toxic products sufficient to incapacitate crew or passengers; or

(viii) inability to restart a serviceable engine.

(f) An uncommanded thrust/power loss, change or oscillation which is classified as a "LOTC" (loss of thrust or power control):

(i) non-containment of components/debris; or

(ii) for a single-engine aircraft; or

(iii) where it is considered excessive for the application; or

(iv) where this could affect more than one engine in a multi-engine aircraft, particularly in the case of a twin-engine aircraft; or

(v) for a multi-engine aircraft where the same, or similar, engine type is used in an application where the event would be considered hazardous or critical.

(g) Any defect in a life-controlled part causing its withdrawal before completion of its full life.

(h) Defects of common origin which could cause an in-flight shut-down rate so high that there is the possibility of more than one engine being shut down on the same flight.

(i) An engine limiter or control device failing to operate when required or operating inadvertently.

(j) Significant exceedance of engine parameters.

(k) The number of engines removed prematurely because of malfunction, failure or defect, listed by make and model and the aircraft type in which it was installed.

3.3 ”APUs” (auxiliary power units)

(a) Inability to start the APU, shut down or failure when the APU is required to be available by operational requirements, e.g. ETOPS, "MEL" (minimum equipment list).

(b) Inability to shut down the APU.

(c) Overspeed.

3.4 Propellers and transmission

(a) Failure or malfunction of any part of a propeller or powerplant resulting in any one or more of the following:

(i) significant failures or defects of a propeller; or

(ii) significant overspeed or inability, by normal procedures, to control speed or pitch of a propeller; or

(iii) the development of excessive drag; or

(iv) a thrust in the opposite direction to that commanded by the pilot; or

(v) a release of the propeller or any major portion of the propeller; or

(vi) a failure that results in excessive imbalance; or

(vii) the unintended movement of the propeller blades below the established minimum in-flight low-pitch position; or

(viii) an inability, by normal procedures, to feather or unfeather a propeller; or

(ix) failure, malfunction or defect of a propeller feathering system or ability of the system to control overspeed during flight; or

(x) an uncommanded change in pitch; or

(xi) an uncontrollable torque or speed fluctuation; or

(xii) the release of low-energy part; or

(b) Rotors and transmission

(i) significant failures or defects of a rotor; or

(ii) significant overspeed or inability, by normal procedures, to control speed or pitch of a rotor; or

(iii) damage or defect of main rotor gearbox/attachment which could lead to in-flight separation of the rotor assembly and/or malfunctions of the rotor control; or

(iv) damage to tail rotor, transmission and equivalent systems.

3.5 Systems and Equipment

For any occurrence involving a system or component which is monitored/protected by a warning and/or protection system (for example – fire detection/extinguishing) the occurrence report should always state whether such systems functioned properly. The following general criteria are applicable to all systems:

(a) General

(i) Inability of the crew to control the system; or

(ii) Fire or explosion; or

(iii) Smoke, toxic or noxious fumes in the aircraft which resulted in the use of emergency equipment or procedures; or

(iv) An aircraft component that cause accumulation or circulation of smoke, vapour, or toxic or noxious fumes in the crew compartment or passenger cabin during flight; or

(v) Uncontained failure or significant overspeed of any high speed rotating component (for example: auxiliary power unit, air starter, air cycle machine, air turbine motor); or

(vi) Significant deviation of the aircraft from its intended flight path, attitude, airspeed or altitude resulting from system or equipment failure, malfunction or defects; or

(vii) Interruption to a flight, unscheduled change of aircraft en route, or unscheduled stop or diversion from a route, caused by known or suspected mechanical difficulties or malfunctions; or

(viii) Significant contamination of aircraft systems and equipment arising from the carriage of baggage or cargo; or

(ix) Failure, malfunction or defect of any system or equipment found as a result of compliance with an Airworthiness Directive or other mandatory instruction issued by a Regulatory Authority when:

  (a) it is detected for the first time by each operator or organisation implementing compliance; or

  (b) on any subsequent compliance where the permissible limits or tolerances quoted in the instruction are exceeded and /or published rectification procedures are not available. For example, a report is required if the condition found necessitates a request to the Design Authority or Regulatory Authority for an extension of limits or tolerances and /or special rectification or procedures.

(x) Failures or defects to any part subject to a finite life or any rotorcraft ‘critical items’ (as defined in manufacturers manuals); or

(xi) Loss, significant malfunction or defect of any system, subsystem or set of equipment when:

  (a) it occurs at a critical phase or time – relevant to the operation of that system; or

  (b) relevant back-up systems, subsystems or equipment did not perform satisfactorily; or

  (c) exceptional circumstances existed or unforeseen consequences arose; or

(d) standard operating procedures, drills etc could not be satisfactorily accomplished.

(xii) A malfunction, failure or defect to any system or component not normally considered as reportable (for example, furnishing and cabin equipment, water systems, items included in the Minimum Equipment List) where the circumstances of the occurrence or its association with other occurrences resulted in endangering of the aircraft or its occupants; or

(xiii) Possible endangering of the aircraft resulting from a high repetitive frequency of a type of occurrence which in isolation would not be reportable – unless the frequency is already being monitored under an approved maintenance programme; or

NOTE: In such cases a single occurrence report together with supporting evidence of high frequency or rate is required.

(xiv) Significant shortfall of the actual performances compared to the approved performance which resulted in a hazardous situation (taking into account the accuracy of the performance-calculation method) including brake action, fuel consumption etc; or

(xv) Any other malfunction, failure or defect which is considered to have endangered or might have endangered the operation of the aircraft.

(b) Systems

(i) *Air conditioning/ventilation*

(a) Complete loss of avionics cooling; or

(b) Depressurisation.

(ii) Autoflight system

(a) Failure of the autoflight system to achieve the intended operation while engaged; or

(b) Significant reported crew difficulty to control the aircraft linked to autoflight system functioning; or

(c) Failure of any autoflight system disconnect device; or

(d) Uncommanded autoflight mode change.

(iii) Communications

(a) Failure or defect of passenger address system resulting in loss of or inaudible passenger address; or

(b) Total loss of communication in flight.

(iv) Electrical system

(a) Loss of one electrical distribution system (AC/DC); or

(b) Total loss or loss of more than one electrical generation system; or

(c) Failure of the back up (emergency) electrical generation system; or

(d) Thermal runaway condition which involves overheating of battery and/or its associated charger.

(v) Cockpit/Cabin/Cargo

(a) Pilot seat control loss during flight; or

(b) Failure of any emergency system or equipment, including emergency evacuation signalling system, all exit doors, emergency lighting, etc.; or

(c) Loss of retention capability of the cargo loading system.

(vi) Fire protection system

(a) Fire warnings, except those immediately confirmed as false; or

(b) Undetected failure or defect of fire/smoke detection/protection system, which could lead to loss or reduced fire detection/protection; or

(c) Absence of warning in case of actual fire or smoke.

(vii) Flight controls

(a) Uncommanded actions; or

(b) Asymmetry of flaps, slats, spoilers, etc.; or

(c) Limitation of movement, stiffness or poor or delayed response in the operation of primary flight control systems or their associated tab and lock systems; or

(d) Flight control surface runaway; or

(e) Flight control surface vibration felt by the crew; or

(f) Mechanical flight control disconnection or failure; or

(g) Significant interference with normal control of the aircraft

or degradation of flying qualities; or

(h) Inability to achieve the intended aircraft configuration for any flight phase (for example: landing gear and its doors, flaps, stabiliser, slats etc).

(viii) Fuel system

(a) Fuel quantity indicating system malfunction resulting in total loss or wrong indication of fuel quantity on board; or

(b) Leakage of fuel which resulted in major loss, fire hazard, significant contamination of systems, structure, or risk to occupants; or

(c) Malfunction or defects of the fuel jettisoning system which resulted in inadvertent loss of significant quantity, fire hazard, hazardous contamination of aircraft equipment or inability to jettison fuel; or

(d) Fuel system malfunctions or defects which had a significant effect on fuel supply and/or distribution; or

(e) Inability to transfer or use total quantity of usable fuel; or

(f) A fuel or fuel-dumping system that affects fuel flow or causes hazardous leakage during flight.

(ix) Hydraulics

(a) Loss of one hydraulic system (ETOPS only); or

(b) Failure of the isolation system; or

(c) Loss of more than one hydraulic circuit; or

(d) Failure of the back-up hydraulic system; or

(e) Inadvertent ram air turbine extension; or

(f) Leakage of hydraulic fluids, oil or other fluids which resulted in a fire hazard or hazardous contamination of aircraft equipment, systems or structure, or risk to occupants.

(x) Ice detection/protection system

(a) Undetected loss or reduced performance of the anti-ice/de-ice system; or

(b) Loss of more than one of the probe-heating systems; or

(c) Inability to obtain symmetrical wing de-icing; or

(d) Abnormal ice accumulation leading to significant effects on performance or handling qualities; or

(e) Crew vision significantly affected.

(xi) Indicating/warning/recording systems

(a) Malfunction or defect of any indicating system when the possibility of significant misleading indications to the crew could result in an inappropriate crew action on an essential system; or

(b) Loss of a red warning function on a system; or

(c) For glass cockpits: loss or malfunction of more than one display unit or computer involved in the display/warning function.

(xii) Landing gear system/brakes/tyres

(a) Brake fire; or

(b) Significant loss of braking action; or

(c) Asymmetrical braking action leading to significant path deviation; or

(d) Failure of the landing gear free fall extension system (including during scheduled tests); or

(e) Unwanted landing gear or gear doors extension/retraction; or

(f) Multiple tyre burst.

(xiii) Navigation systems (including precision approach systems) and air data systems

(a) Total loss or multiple navigation equipment failures; or

(b) Total or multiple air data system equipment failures; or

(c) Significant misleading indications; or

(d) Significant navigation errors attributed to incorrect data or a database coding error; or

(e) Unexpected deviations in lateral or vertical path not caused by pilot input; or

(f) Problems with ground navigational facilities leading to significant navigation errors not associated with transitions from inertial navigation mode to radio navigation mode.

(xiv) Oxygen for pressurised aircraft

(a) Loss of oxygen supply in the cockpit.

(xv) Bleed air system

(a) Hot bleed air leak resulting in fire warning or structural damage; or

(b) Loss of all bleed air systems; or

(c) Failure of bleed air leak detection system.

(xvi) *Emergency system and equipment*

Failure of any emergency system or equipment, including all exit doors and lighting, to perform satisfactorily, including when being used for maintenance, training or test purposes.

3.6 Human Factors

Any incident where any feature or inadequacy of the aircraft design could have led to an error of use that could contribute to a hazardous or catastrophic effect.

3.7 Aircraft Maintenance and Repair

(a) Non-compliance or significant errors in compliance with required maintenance procedures.

(b) Products, parts, appliances and materials of unknown or suspect origin.

(c) Misleading, incorrect or insufficient maintenance data or procedures that could lead to maintenance errors.

(d) Incorrect assembly of parts or components of the aircraft where the condition was not found as a result of the inspection and test procedures required for that specific purpose.

(e) Any failure, malfunction or defect of ground equipment used for testing or checking of aircraft systems and equipment when the required routine inspection and test procedures did not clearly identify the problem, where this results in a hazardous situation.

4 GROUND SERVICES, FACILITIES OR EQUIPMENT

The following should be reported as indicated:

4.1 Air Traffic Control Services – by Flight Crew/ATCOs/Ground Ops Support Staff

(a) Provision of significantly incorrect, inadequate or misleading information from any ground sources, e.g. ATC, ATIS, Meteorological Services, maps, charts, manuals, etc.

(b) Provision of less than prescribed terrain clearance.

(c) Provision of incorrect altimeter setting.

(d) Misidentification of aircraft by an ATCO providing radar service.

(e) Incorrect transmission, receipt or interpretation of significant messages.

(f) Separation between aircraft less than that prescribed for the situation.

(g) Non compliance with prescribed approach or departure procedures or any ATC instruction.

(h) Aircraft deviation from applicable Air Traffic Management (ATM) regulation:

(i) aircraft deviation from applicable published ATM procedures;

(ii) unauthorised penetration of airspace;

(iii) deviation from aircraft ATM-related equipment carriage and operations, as mandated by applicable regulation(s).

(i) Declaration of an emergency (‘Mayday’ or ‘Pan’) by an aircraft.

(j) Unauthorised infringement of any form of regulated airspace.

(k) Unauthorised or illegal RTF transmissions.

(l) ATC Overload reports.

(m) Declaration of an ACAS Resolution Advisory by an aircraft.

(n) Inability to provide ATC services

4.2 Navigation and Communications Equipment – failures, malfunctions or defects – by Flight Crew/ATCOs

(a) Total failure of navigation system or sub-system being used by an aircraft.

(b) Total failure of communications system.

(c) Total failure of ATC surveillance system or sub-system.

(d) Failure or unplanned shutdown of a major operational ATC computer system, including Radar Processing, Flight Data Processing Systems and Distribution function, requiring reversion to manual back up and resulting in disruption to the normal flow of air traffic.

(e) Significant malfunction or deterioration of service.

(f) Significant deficiency in maintenance.

(g) Repetitive events of a specific type of occurrence which in isolation may not be considered reportable (e.g. excessive monitor alarms).

(h) Provision of erroneous information in the absence of any alarms.

(i) Air Traffic Management (ATM) system security.

4.3 Airfields and Airfield Facilities – by Flight Crew/Airfield Staff/ATCOs

(a) Failure, significant malfunction or unavailability of airfield lighting.

(b) Major damage or significant deterioration of surfaces of runways or aircraft maneouvring areas.

(c) Runways or aircraft maneovuring areas obstructed by aircraft, vehicles or foreign objects, resulting in a hazardous or potentially hazardous situation.

(d) Runway incursions cover any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle or person on the protected area of a surface designed for the landing and take-off of aircraft. (DCA 235, at Appendix A(3), should be used instead of DCA 201 to report these incidents as per AIC 18/09)

(e) Errors or inadequacies in marking of obstructions or hazards on runway or aircraft maneouvring areas.

(f) Collision between a moving aircraft and any other aircraft, vehicle or other ground object.

(g) Aircraft departing from a paved surface which results in, or could have resulted in, a significant hazard.

(h) Jet or prop blast incidents resulting in significant damage or serious injury.

(i) Significant spillage of fuel on airfield ramps.

(j) A stationary aircraft damaged by vehicle or other ground service equipment.

4.4 Passengers/Baggage/Cargo – by Flight Crew/Ground Support Staff

(a) Difficulty in controlling intoxicated, violent or armed passengers.

(b) Incorrect loading of passengers, baggage or cargo, likely to have a

significant effect on aircraft weight and balance.

(c) Incorrect stowage of baggage or cargo likely in any way to hazard the aircraft, its equipment or occupants or to impede emergency evacuation (includes hand baggage).

(d) Inadequate storing of cargo containers or substantial items of cargo.

(e) Significant contamination of aircraft structure, systems or equipment arising from the carriage of baggage or cargo.

(f) Carriage or proposed carriage of dangerous goods or weapons and munitions of war in contravention of appropriate regulations.

(g) Incorrect labelling and packaging of dangerous goods.

(h) Presence of a stowaway(s).

4.5 Aircraft Ground Handling/Servicing – by Flight Crew/Ground Support Staff

(a) Loading of incorrect fuel quantities likely to have a significant effect on aircraft endurance, performance, balance or structural strength.

(b) Loading of contaminated or incorrect type of fuel or other essential aircraft fluids (includes oxygen and potable water).

(c) Significant spillage of fuel.

(d) Failure, malfunction or defect of ground equipment used for test/check of aircraft systems and equipment when the required routine inspection and test procedures did not clearly identify the problem before safe operation of the aircraft could have been affected.

(e) Non compliance or significant errors in compliance with required maintenance/servicing procedures.

4.6 Ground Staff Incapacitation – by Flight Crew/Ground Staff

Impairment of any member of ground staff (e.g. Aircraft Maintenance Staff, Air Traffic Controllers, Airfield Support Staff etc) when as a result an aircraft was or could have been endangered.

5 OTHER OCCURRENCES

Any other event which could endanger the aircraft, or affect the safety of the occupants of the aircraft, or people or property in the vicinity of the aircraft or on the ground.