Safety Links

CAD Safety Promotion Newsletter

November 2018 Issue 5

In This Issue

A Newsletter for Aviation Professionals

Welcome to the fifth issue of Safety Links.

As safety management practice matures, industry and regulators across sectors and borders are more active in sharing safety information and lessons learnt. Safety Links provides a platform for you to share good safety management practices and actionable insights for enhancing safety.

Positive Safety Culture – Key to an Effective Occurrence Reporting System

By Mr. P K Ching, Safety and Cyber Security Manager & Mr. Stephen Kwong, Safety Officer, Air Traffic Engineering Services Division, CAD

Under the Air Navigation Services (ANS) SMS regime of CAD, the Air Traffic Engineering Services Division (AESD) maintains and implements a mechanism for reporting of and investigation into Technical Safety Occurrences (abbreviated as TSO hereafter) involving ANS Equipment including Communication, Navigation and Surveillance (CNS) and Air Traffic Management (ATM) systems that are of potential impact on the delivery of safe air traffic services in Hong Kong. The objective of this mechanism is to ensure high serviceability, reliability and integrity of CNS/ATM systems with a view to achieving consistent and satisfactory safety performance of technical services.

Tai Mo Shan Terminal Area Radar

The Mechanism

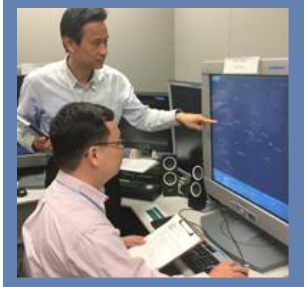
TSO are categorised as Major or Minor. Once the reported occurrence is classified as TSO, an investigation in line with the mechanism as documented in "The Reporting and Investigation Procedures for Technical Safety Occurrences" will be conducted.

Consistent with the CAD Safety Policy in the Hong Kong Aviation Safety Programme (HKASP), the investigation into TSO is for prevention of similar occurrence and not to apportion blame. For each occurrence, we will endeavour to i) capture relevant information; ii) establish and analyse facts; iii) identify contributory and causal factors of the occurrence; iv) take timely corrective actions to address safety concerns, and v) recommend safety enhancement measures to prevent recurrence.

A Practical Example

On 8 April 2017, a Major TSO was reported. Both Flight Data Processors (FDPs) of the Main System of the Air Traffic Management System (ATMS) were not functioning properly. During the occurrence, the system had displayed an alert message as per system design. The Fallback System then took over the

AESD Investigators reviewing surveillance data



ANS Equipment

SMS Corner in AESD

operations and became the active Main System. Throughout the occurrence, the air traffic controllers at all times were able to provide ATC services.

Joint investigation with the Maintenance Service Providers (MSP) and the system supplier found that the root cause was an additional user preference being saved which had exceeded the design limit. Preventive and mitigating measures were immediately taken and promulgated to operational colleagues. Since then, no recurrence of similar event has been reported. Information regarding the occurrence and updated safety measures was disseminated to colleagues.

Positive Safety Culture

Safety culture can be described as "how people behave in relation to safety and risk when no one is watching". An effective occurrence reporting system needs to be supported by a positive safety culture which consists of the following:

Positive Reporting Environment

In line with the spirit of SMS, AESD promotes a positive safety culture, which encompasses "reporting culture", "just culture", "informed culture" and "learning culture". Through the organisation of safety briefing sessions and publication of safety promotion materials, all ANS users are encouraged to report safety concerns and equipment anomalies. Investigations will be conducted in compliance with established procedures to identify safety enhancement measures, which in turn, holistically improve safety performance in fulfilling AESD's core function of provision of safe CNS/ATM systems.

Regular Review of the Mechanism

Within AESD, periodic reviews of the investigation mechanism are conducted so as to achieve continuous improvement. Air Traffic Management Division (ATMD), Air Traffic Management Standards Office (ATMSO) and MSP are consulted to ensure the comprehensiveness and effectiveness of such review. AESD values all feedbacks and inputs towards safety.

Staff participating in a safety briefing session

Safety Awareness Training

An "informed culture" is one of the elements in promoting a positive safety culture. In order to familiarise colleagues with the reporting and investigation procedures for TSO, such procedures form part of the topics in the "Basic SMS Induction Course" to all new engineers joining AESD.

Safety Information Sharing

After a TSO investigation, any new or updated procedures would be passed on to operational colleagues via various platforms, including team briefings, memos to supervisors and briefing sessions etc. There is a safety noticeboard for dissemination of the latest safety information, including SMS certificate, ANS Safety Policy and the quarterly SPIs of CNS facilities and equipment.

Safety briefing sessions to facilitate experience sharing on system errors or maintenance issues of CNS/ATM systems, lessons learnt from TSO, introduction of new or updated procedures, reminders on various essential procedures and other safety related topics are regularly organised by AESD Safety Management Office.

Conclusion

Safety is always the top priority in AESD. The TSO reporting and investigation mechanism demonstrates the efforts undertaken by AESD in the identification of safety hazards which is vital to enhancing safety. Promoting a positive safety culture is always our core value and a key enabler in implementing an effective occurrence reporting system.

Wake Vortex Re-categorisation Consultancy Study for the Hong Kong International Airport

The CAD and the Airport Authority Hong Kong (AAHK) are undertaking a consultancy study on aircraft wake vortex re-categorisation at the Hong Kong International Airport (HKIA) with the objective of both increasing the runway capacity of the airport and maintaining safety at the same time. The study is on the deployment of the European Wake Vortex Re-categorisation (RECAT-EU) at the HKIA by redefining aircraft wake turbulence categories and their associated separation minima.

The current Heavy, Medium and Light ICAO categorisation will be sub-divided into Super Heavy (e.g. A380), Upper Heavy, Lower Heavy, Upper medium, Lower Medium and Light. Using the new categorisation, the separation minimum between an A380 followed by a B777, for instance, could be reduced from 6 NM to 4 NM. The study will include, among other things, hazard identification and risk assessment and will engage relevant stakeholders in the process. A task force has been established with representatives from the CAD, the AAHK and the Hong Kong Observatory (HKO) to oversee the study. The study is targeted to be completed by the end of 2020.

Comparison of ICAO and RECAT-EU Criteria

Implementation of Enhanced Measures for Safe Transport of Dangerous Goods by Air

By Airport Standards Division, CAD

The rapid expansion of e-commerce industry and increasing use of lithium batteries in electronic products in recent years have posed a new safety concern to the air transport industry. To ensure aviation safety and proactively manage dangerous goods (DG) occurrences, the Airport Standards Division (APSD) of the CAD has implemented a new scheme to step up the control, surveillance and inspection on those shippers and freight forwarders who have been involved in DG occurrences whereby undeclared or mis-declared DG was found in their air cargo consignment since 1 October 2018.


Briefing to industry stakeholders

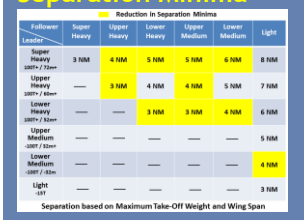
Under the new scheme, shippers and freight forwarders involved in reported undeclared or mis-declared DG occurrences will be required to inter alia, submit a corrective action plan (CAP) to the DG Office of the CAD, in which they will be required to implement enhance control and surveillance measures, including 100% x-ray screening or hand search on their concerned air consignments for a specified period of time. Additional regulatory and surveillance actions will be imposed on the subject shippers and subject freight forwarders who fail to submit or implement a CAP acceptable to the CAD, or comply with the applicable enhanced control and surveillance measures specified in the scheme.

In accordance with the Dangerous Goods (Consignment by Air) (Safety) Regulations (Cap. 384A of the Laws of Hong Kong), the CAD is also obliged to investigate into every DG occurrence that involves the consignment of DG in contravention with the said Regulations and initiate legal action, as appropriate.

RECAT-EU

https://www.eurocontrol.int/sites/default/files/content/documents/sesar/recat-eu-released-september-2018.pdf

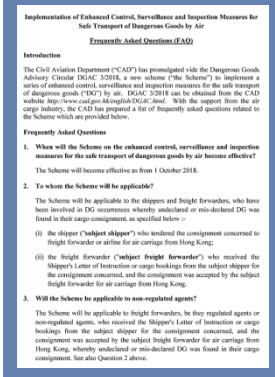
RECAT-EU Wake Turbulence Separation Minima


Reduction in Separation Minima

Follower / Leader	Super Heavy	Upper Heavy	Lower Heavy	Upper Medium	Lower Medium	Light
Super Heavy 100T+ / 72m+	3 NM	4 NM	5 NM	5 NM	6 NM	8 NM
Upper Heavy 100T+ / 60m+	—	3 NM	4 NM	4 NM	5 NM	7 NM
Lower Heavy 100T+ / 52m+	—	—	3 NM	3 NM	4 NM	6 NM
Upper Medium -100T / 52m+	—	—	—	—	—	5 NM
Lower Medium -100T / -52m	—	—	—	—	—	4 NM
Light -15T	—	—	—	—	—	3 NM

Separation based on Maximum Take-Off Weight and Wing Span

FAQs on the new scheme


Implementation of Enhanced Control, Surveillance and Inspection Measures for Safe Transport of Dangerous Goods by Air

Frequently Asked Questions (FAQ)

Introduction

The Civil Aviation Department ("CAD") has promulgated vide the Dangerous Goods Advisory Circular DGAC 3/2018, a new scheme ("the Scheme") to implement a series of enhanced control, surveillance and inspection measures for the safe transport of dangerous goods ("DG") by air. DGAC 3/2018 can be obtained from the CAD website *http://www.cad.gov.hk/english/DGAC.html*. With the support from the air cargo industry, the CAD has prepared a list of frequently asked questions related to the Scheme which are provided below.

Frequently Asked Questions

1. **When will the Scheme on the enhanced control, surveillance and inspection measures for the safe transport of dangerous goods by air become effective?**

   The Scheme will become effective as from 1 October 2018.

2. **To whom the Scheme will be applicable?**

   The Scheme will be applicable to the shippers and freight forwarders, who have been involved in DG occurrences whereby undeclared or mis-declared DG was found in their cargo consignment, as specified below :-

   (i) the shipper ("**subject shipper**") who tendered the consignment concerned to freight forwarder or airline for air carriage from Hong Kong;

   (ii) the freight forwarder ("**subject freight forwarder**") who received the Shipper's Letter of Instruction or cargo bookings from the subject shipper for the consignment concerned, and the consignment was accepted by the subject freight forwarder for air carriage from Hong Kong.

3. **Will the Scheme be applicable to non-regulated agents?**

   The Scheme will be applicable to freight forwarders, be they regulated agents or non-regulated agents, who received the Shipper's Letter of Instruction or cargo bookings from the subject shipper for the consignment concerned, and the consignment was accepted by the subject freight forwarder for air carriage from Hong Kong, whereby undeclared or mis-declared DG was found in their cargo consignment. See also Question 2 above.

In formulating and fine-tuning the new scheme, APSD collaborated closely with and consulted industry stakeholders including but not limited to the Carrier Liaison Group, Hongkong Association of Freight Forwarding and Logistics and Hong Kong Shippers' Council. Mass briefing sessions to the trade were also held to enhance mutual communication with the industry and facilitate their understanding prior to launching the new scheme. For details of the new scheme, please refer to DG Advisory Circular 3/2018 and the related FAQs which can be found on CAD website: https://www.cad.gov.hk/english/DGAC.html.

Tripartite Air Law Meeting 2018

CAAC, CAD and AACM representatives attending the meeting

The Civil Aviation Administration of China (CAAC), the CAD and the Civil Aviation Authority of Macao (AACM) have been taking turns to host the Tripartite Air Law Meeting since 2006. The key objective of the meeting is to provide a platform for the three civil aviation authorities to update and discuss the development of local aviation laws and regulations in addressing safety risks and ensuring compliance with the latest requirements of the ICAO and international practices.

11th Tripartite Air Law Meeting 2018

The 11th Tripartite Air Law Meeting was held in Hong Kong at the CAD Headquarters on 29 and 30 August 2018. Apart from reviewing the recent development of the local aviation laws and regulations, the discussion also focused on some recent aviation issues such as the regulation and enforcement of Unmanned Aircraft System (UAS), cyber security and safety data protection. The Meeting shared very useful information on issues of common interests and reinforced the collaboration among the three authorities.

Hong Kong Aviation Safety Programme Third Issue

The HKASP 3rd Issue has been released in May 2018. The updated version aligns with the new / amended provisions in the ICAO Annex 19, 2nd edition which will be applicable on 7 November 2019. A new SSP Implementation Plan 2018 – 2028 has also been incorporated in the new version. The HKASP 3rd Issue has been uploaded to the CAD website: https://www.cad.gov.hk/reports/HKASP_2018.pdf.

General Aviation and Business Aviation Operational Issue

There were a number of occurrences relating to general aviation and business aviation (GA/BA) aircraft's non-compliance with ATC procedures within the Hong Kong FIR. CAD has written to the GA/BA community to draw their attention to the issue and to prevent recurrence. Colleague of our Flight Standards and Airworthiness Division also presented a paper on "Operation Standards of Foreign Business Aircraft" at the 12th Meeting of the Asia Pacific Regional Aviation Safety Team and the 8th Meeting of the Regional Aviation Safety Group.

Contact Us

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What is "Safety Links" and how can I contribute?

Safety Links provides a platform for aviation professionals to share good safety management practices and lessons learnt with other sectors, such that we can all learn from your experience and plan for safety improvement. Please contribute your knowledge and safety suggestions. The information will be de-identified upon request.

Safety culture
Our business