



AIRPORTS AUTHORITY OF INDIA

Directorate of Air Traffic Management

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ATMC

AIR TRAFFIC MANAGEMENT CIRCULAR NO. 4 of 2009

ATC communication procedures for blocked & simultaneous transmissions

1. Introduction

- 1.1 With the steady growth of air traffic in India there is a corresponding increase in the incidence of blocked or simultaneous transmissions. This may result in dangerous situations developing, especially when they go undetected.
- 1.2 Simultaneous transmission by more than one station results in suppression of one or more such transmissions being blocked and not heard/deciphered by the others.
- 1.3 Radio interference caused by unauthorised transmissions or breakthrough from commercial stations can have a similar effect, causing difficulties in reception or the loss of all or part of message.
- 1.4 Possible dangerous situations may include the following:
 - (a) a flight executes a clearance intended for another flight and takes action, e.g. alters heading or level, with resultant loss of separation;
 - (b) a flight misses all or part of a clearance intended for it and maintains its level and/or heading, bringing it into conflict with other flights;
 - (c) a controller assumes that a message received is from a different flight and issues inappropriate instructions;
 - (d) a controller fails to note error in read back (including wrong call sign) and does not correct the error (hear back error);
 - (e) unacceptable delay in establishing RTF contact or in issuing a clearance or passing a message;
 - (f) the workload of controllers and pilots is increased due to the necessity to resolve the confusion.
- 1.5 The high volume of air traffic has made various ATC procedures and technical activities necessary which may increase the probability of simultaneous transmission.

2. Purpose

- 2.1 Several cases of AIRPROX have occurred due to a pilot reading back a clearance not intended for him/her, at the same time as the pilot for whom the clearance was intended. The ATCO could not detect the error because the transmission was hidden. Therefore, a need was felt for issuing guidelines for RTF handling which could help in reducing such incidents.

3. Scope

- 3.1 This ATMC is applicable to all ATCOs working at various AAI airports/ATC centres/ATC units.

4. Blocked & Simultaneous transmission

- 4.1 The operation of large numbers of aircraft in the same airspace increases the likelihood of simultaneous transmission, especially when the volume of traffic approaches the maximum handling capacity of the controller.
- 4.2 Where an RTF frequency is congested, pilots feel obliged to transmit as soon as they believe a previous transmission is complete in order to get their message across. This often leads to simultaneous transmissions.
- 4.3 Best Signal Selection (BSS) is sometimes employed to prevent two simultaneous transmissions from aircraft corrupting each other so that neither is intelligible. BSS compares the strength of simultaneous transmissions and automatically suppresses the weaker one. Because the controller does not hear the weaker transmission it is likely that the simultaneous transmission will go undetected.
- 4.4 Where similar call signs are in use, there is an increased probability of the wrong aircraft taking a clearance, especially if the call sign is blocked or garbled. Similarly, a controller may not detect a read-back error if the transmission is partially blocked. The use of similar call signs greatly increases the probability that a call taken by the wrong aircraft will go undetected.
- 4.5 Blocked transmissions may also result if the push-to-talk switch is not immediately released after a communication.
- 4.6 An excessive pause in a message (i.e. holding the push-to-talk switch while preparing the next item of the transmission) may lead others to believe that the transmission is complete, which may result in the response or part of another message being blocked.
- 4.7 The absence of a read-back from the pilot should be treated as a blocked transmission with prompt request to repeat or confirm the message.
- 4.8 In practice, most pilots are unlikely to treat the absence of a hear back acknowledgement from the controller as evidence of a blocked transmission, and only question the controller if they are uncertain that the read-back was correct or have other reasons to suspect a blocked transmission.

5. Precautions to be taken by the Air traffic controllers for blocked and simultaneous transmission:

- 5.1 Ensure that they are familiar with the characteristics and limitations of the RTF equipment they operate. In particular, they should have detailed information on RTF Best Signal Selection (BSS) functionality if used, including the process itself, how it should be used and the problems inherent in the system.

- 5.2 Use correct RTF phraseology, procedures and discipline at all times.
- 5.3 Not to clip transmissions.
- 5.4 Ensure clearances are read back correctly, besides not using read-back time to execute other tasks.
- 5.5 Monitor flight crew compliance with RTF call sign in use.
- 5.6 Take extra care when language difficulties may exist.
- 5.7 If a blocked transmission is suspected, ensure that both aircraft retransmit their messages and confirm carefully that a clearance has not been taken by an aircraft for which it was not intended.
- 5.8 Where a blocked or simultaneous transmission is observed, file a report as per incident reporting system provided in ATMC 3 of 2009.
- 5.9 When combining or bifurcating sectors, the frequency plan should be communicated to the adjacent centres/positions and the closed frequencies should be monitored for the transitional period;
- 5.10 Although not an official procedure, some pilots make a practice of alerting controllers and other pilots to an apparent blocked or garbled transmission by saying "Blocked" immediately afterwards. This practice should be encouraged.

6. Queries

- 6.1 Any queries or further guidance required on the contents of this ATMC should be addressed to:

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7. Validity

- 7.1 This ATMC will remain in force until further notice.



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