

RA 3233 - Conduct of Radar Handovers

Rationale

Controllers are required to use standard radar handover procedures to ensure the safe transfer of responsibility for Air Systems whilst ensuring accuracy of information and the avoidance of ambiguity.

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3233(1) Radar handovers **shall** only be effected when specific requirements are met.

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Conduct of Radar Handovers

1. A radar handover **should** only be effected between 2 agencies when:
 - a. Satisfactory 2-way communication is possible.
 - b. Responsibility for the Air System is transferred directly from controller to controller.
 - c. The Air System is in an area of overlapping surveillance coverage¹.
 - d. The handover fulfils any standing agreement between the 2 agencies.
 - e. The releasing controller resolves any traffic conflicts before completing the handover.
2. Controllers **should** only conduct a handover in airspace in which they are authorized to provide an Air Traffic Service (ATS).

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3. Controller to controller communication will be established in sufficient time before the arrival of the Air System at the handover point. The following information will be provided:
 - a. Console number or control position of the releasing controller.
 - b. Nature of task (eg VHF lower airspace transit) and callsign.
 - c. Position, heading / track or vectoring instructions. The releasing controller will allow the receiving controller to locate the radar return, say 'contact', and pass the new Secondary Surveillance Radar (SSR) transponder code for assignment by the releasing controller.
 - d. Flight level / altitude / height and flight conditions (if relevant).
 - e. Type of Air System.
 - f. Intentions (eg destination).
 - g. Any other relevant information (eg ATS, Reduced Vertical Separation Minima approval status).
4. The receiving controller will confirm receipt and understanding of the information by 'reading back'; additionally, the receiving unit's console number or control position will be passed to the releasing controller.
5. The receiving controller will confirm (or change if required) the ATS with the pilot on initial contact.
6. A shortened handover as defined in Command / Local Orders may be used in the case of pre-noted Air System.

¹ Throughout this RA, any reference to SSR is equally applicable to Wide Area Multilateration (WAM) and Automatic Dependant Surveillance Broadcast (ADS-B).

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Transfer to International Agencies

7. Where direct communications exist between UK and Continental radar units they will be used for handovers in accordance with (iaw) relevant letters of agreement. When no such communications are available, the Air System will be released at a suitable time and position within the UK Flight Information Region (FIR) or UK Upper Information Region (UIR) to call the appropriate agency for clearance to enter the Continental FIR / UIR. In this case, the pilot will be advised that the ATS will be discontinued until Radiotelephony (RT) communication is re-established.

Silent Handovers

8. The procedure to be followed when carrying out silent handovers will vary according to the characteristics of the data communication system in use. Where such a system is authorized for this purpose, units will issue orders governing its use.

No Landline Communication Available

9. Although landline communication is normally used, where communication between the relevant ground agencies is not available the pilot will be given ► their ◀ position and instructed to 'Free Call' the next agency. The frequency to contact this agency will be passed whenever possible.

Radar Handover Methods- SSR

10. Controllers will use SSR to identify Air System whenever available.

11. When using SSR, the transfer of radar identity will accord with the following principles of operation:

- a. The receiving controller will state the SSR transponder code required.
- b. The handing-over controller will instruct the pilot to select the new transponder code.
- c. The remainder of the handover details will be passed.
- d. When the receiving controller agrees, the releasing controller will then pass the remaining instructions to the pilot to complete the handover.
- e. If it is not possible for the releasing controller to pass the change of SSR transponder code, or for the pilot to accept it, the taking over controller will pass the transponder code change as soon as possible after the handover is complete and prior to transferring to the receiving controller.

12. To avoid overloading pilots, particularly during the handover sequence, SSR transponder codes will not be included in the same RT message as changes of frequency, heading or level.

13. In situations where the SSR transponder code used in the transfer of identity is available for use by more than one Air System (eg, to indicate a particular task), the position report will be accurately defined iaw one or more of the methods detailed in RA 3227 ►² ◀.

Non SSR / WAM / ADS-B

14. If SSR / WAM / ADS-B is not available and the observed primary surveillance radar (PSR) response is consistent with the Air System reported track or heading, transfer of identity will be effected by one of the following methods:

- a. **Direct designation.** Direct designation (ie pointing) of the PSR return if the 2 surveillance displays are adjacent, or if a common 'conference' type of surveillance display is used, provided that:
 - (1) If the 2 surveillance displays are adjacent but the information is not derived from the same surveillance source, the transferring controller will ensure that the PSR returns on both displays correlate before indicating the position to the accepting controller.

² ► Refer to RA 3227 – Methods of Identification. ◀

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(2) Caution is exercised because this method can be subject to parallax errors. If these errors are large, the method outlined at b below will be used.

b. **Designation of the PSR return as a bearing and distance from a common reference point.** Designation from a common reference point (eg navigational facility or geographical position) accurately indicated on both surveillance displays, provided that the position of the PSR return as seen by the receiving controller is within 3 nm of the position stated by the releasing controller. The manner in which the indication of the bearing of an Air System is determined and relayed will be subject to the following limitations on the permissible distance of the PSR return from the reference point as seen by the receiving controller:

- (1) By points of the compass (eg N; NNE; etc) ≤ 15 nm.
- (2) By a bearing estimated in degrees ≤ 30 nm.
- (3) By a bearing measured electronically in degrees ≤ 60 nm.

c. **Designation of the PSR return by reference to a GEOREF** video map, provided that the position of the PSR return, as seen by the receiving controller, is within 3 nm of the position stated by the releasing controller.

d. **Designation of the PSR return by positioning an electronic marker** or symbol so that only one PSR return is thereby indicated and there is no possible doubt of correct identification.

Radar Tracking System

15. Use of a radar tracking system where procedures are defined in Local / Unit Orders.

Flight Operations Assistant (FOA) Handovers

16. FOAs at RAF(U) Swanwick, operating in the role of Support Controller are authorized to carry out radar handovers to RAF, RN and USAF agencies within the UK FIR / UIR provided that:

- a. The FOA has been assessed by the Unit as being competent to carry out radar handovers.
- b. The FOA initiates a radar handover only when specifically instructed to do so by the controller.
- c. The FOA clearly identifies ► **their** ◀ role to the receiving agency.
- d. RAF(U) Swanwick, the receiving unit and the Air System have serviceable SSR equipment, and the AS is transponding the assigned code.
- e. Where an Air System is subject to prior coordination, the controller passes to the receiving controller details of the coordination to which the flight is subject.
- f. The receiving controller retains the right to insist on a controller-to-controller handover.
- g. The RAF(U) Swanwick controller retains overall responsibility for the handover.

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